DOCUMENT RESUME

ED 058 888 LI 003 391

AUTHOR	Sypert, Mary
TITLE	An Evaluation of the Colorado Statewide Reference Network.
INSTITUTION	Denver Univ., Colo. Center for Communication and Information Research.
SPONS AGENCY	Colorado State Univ., Ft. Collins.
PUB DATE	Apr 71
NOTE	255p.; (90 References)
EDRS PRICE	MF-$0.65 HC-$9.87
DESCRIPTORS	*Administration; Library Cooperation; *Library Networks; *Library Planning; *Library Reference Services; Library Surveys
IDENTIFIERS	*Colorado Statewide Reference Network

ABSTRACT

Lack of adequate administration is concluded to be the main cause of Network inefficiency and ineffectiveness. Some of the recommendations for improvement of Network administration are: (1) The Colorado State Library (CSL) should remain the central agency for administration of the Statewide Reference Network (SRN). CSL should accept responsibility for the planning and design of the Network; it should delegate role responsibilities and specialties; and it should be responsible for implementing operations and continuous evaluation; (2) CSL should identify a position within the organizational structure at the appropriate level for an administrator of the SRN; (3) A governing committee other than the Colorado Council on Library Development should be established to work closely with the administrator of SRN in the guidance and direction of the Network's development and (4) Objectives of the SRN should be established. (Author/MM)

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AN EVALUATION OF THE COLORADO STATEWIDE REFERENCE NETWORK

Mary Sypert

PROJECT NO. 71-2
APRIL, 1971

CENTER FOR COMMUNICATION
AND INFORMATION RESEARCH

Graduate School of Librarianship/University of Denver

LI 003 391

ACKNOWLEDGMENTS

Many have contributed to the completion of this evaluation. The cooperation offered by libraries and personnel participating in network operations suggests a state-wide willingness to assist improvement and growth, a willingness that may be the single most important ingredient in the success of a statewide library network.

Miss Maryann Duggan, Librarian and Systems Analyst of the South Central Regional Medical Library Program in Dallas, cannot adequately be acknowledged for her contribution to this document. Her personal interest, enthusiasm, teaching, and direction are greatly appreciated.

Dr. Richard Nance, Professor, Institute of Technology, Southern Methodist University, is thanked for his patience and his modeling and programming skills.

Many at the Colorado State Library: especially Mr. James Meeks, Mrs. Esther Snyder and Mrs. Evelyn Brewster; the Director and staff of the Bibliographical Center for Research; and the Statewide Reference Center personnel; supplied documents and information.

At the University of Denver, encouragement and help came from several members of the faculty of the Graduate School of Librarianship, especially Dean Margaret Knox Goggin and Dr. Elaine Svenonius, Director of the Center for Communication and Information Research. Dr. William Slaichert, Professor, School of Education, is thanked for his assistance in sampling and instrument development.

Misses Mary Engebretson, Leah Rae Miron, and Kate Paranya, Graduate Research Assistants, spent many hours working with the data. Mrs. Sally Proesel typed the final report.

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SUMMARY OF CONCLUSIONS

Conclusion: Type of Library

All types of libraries are not participating in the Statewide Reference Network, although patron users from different libraries might be gaining access to the Network through the public library. Lack of knowledge of the Service or the lack of easy access perhaps hinders use by some types of libraries.

Conclusion: Type of Patron

Inasmuch as patron status was reported in only 46 per cent of the transactions, no valid conclusions can be drawn concerning the actual status of patrons using the Statewide Reference Network.

Conclusion: Activity by Type of Request

The dialogue often necessary for satisfying a request for information or documentation is frequently eliminated by existing Network operations and procedures. As a result, the Statewide Reference Network has become primarily an interlibrary loan system for document exchange, except for the reference services offered by the Bibliographical Center for Research.

Conclusion: Type of Channel

Aside from the courier service which is available only in the Central Colorado System, the channels most used by libraries to transmit a message in the request path are the telephone and TWX. The mail is most used in the response path. The telephone receives greatest use where toll charges are small or non-existent.

Conclusion: Activity by Originating Level

Most requests originate at the local level, but more varied types of requests originate at the SARC and CSL levels. Local libraries use the Network primarily for interlibrary loan of documents rather than for information transfer.

Conclusion: Intended Use

The value of intended use information in satisfying a request is not recognized by participating librarians.

Conclusion: Type of Remark

Time limitation was the main qualification contained in the remarks made on transactions, although no remarks of any kind were made on 58 per cent of the transactions, either because remarks were felt unnecessary or because they were thought to involve expense.

Conclusion: Response Time and Time Per Link

The total response time, over both request and response paths, is longest during the months of heaviest Network activity. Response time tends to be considerably longer when a request has to go to the state level.

Conclusion: Dependency of Libraries on the Network

Dependency of libraries on Network resources is much greater in some geographical areas than in others. Nearly all libraries are net borrowers, but no library is primarily a lending library.

Conclusion: Input/Output Analysis

The capability of some system libraries to fill the requests of their primary patrons is related both to the size of the library collection and the existence of finding lists.

Conclusion: Performance and Network Administration

Dissatisfaction with the performance of the Statewide Reference Network is directly related to the lack of administration at the SARC and state levels.

Conclusion: Cost

No valid or reliable cost analysis can be made due to lacking information of actual operational costs, units of reference service and expected and actualized benefits, all of which are necessary for cost benefit measurements.

CHAPTER I

Introduction

> We must press our efforts to ensure that all types of libraries are brought into a total service structure which can make real the potential inherent in the separate parts. The time is indeed past when we can think compartmentally of a "public library program," a "school library program," a "college library program," or even the program of a highly specialized private library. We need to acknowledge the interrelation of these resources and services; we need to plan from the vantage point of a library user, who cares little about the "type" of library, but a great deal about the ability of that library or that library system to supply his needs.
>
> James E. Allen, Jr.
> New York Commissioner of Education
> at First Governor's Library Conference
> Albany, New York, June 24-25, 1965

The concept of a library network is a reasonable approach to the extension of cooperative library services. A workable library network can provide for participating libraries a means for coping with the changes and pressures in American education and culture that have resulted in increasing user demands, an exploding quantity of published materials, rising costs, and technological advancements.

The antecedent to a successful library network is cooperation. Cooperation of any sort is desirable when it benefits participating agencies, making them more effective collectively than they are independently.

Although networking reference services implies some redefinition of the reference function and some administrative, organizational, and financial problems, the extended services provided by networking offer new challenges and opportunities for tapping the combined capabilities of the experience and knowledge of mankind's resources.

To make the total existing resources of all types of libraries and information agencies easily accessible to all users, a system must be designed that unifies efforts to bring together similarities without imposing uniformities which tend to destroy the special characters of individual institutions. This necessitates a correct understanding of each library's relationship to the others and to the network as a whole.

The network approach requires, then, the interdependence, cooperation, and compatibility of all types of libraries and information agencies, systematically organized and available through any patron's primary input level.

> The reference librarian becomes an expert in resource availability at the national level. His reference desk becomes a switching center, at which he receives and analyzes inquiries, decides the level of service required, identifies available sources or resources that match an inquiry, transmits the latter (restructured to be compatible with the network language), conducts a dialog with the source, receives the response and interprets it to the patron. This procedure is not markedly different from what has been done for years in any reference library, but with greater potential the process must be more formalized and structured.[1]

Evaluation of network reference services, as of other library services, should point the direction in which a system will evolve. Without such evaluation, planning and design are based only on conjecture.

---

[1] Maryann Duggan, "Library Network Analysis and Planning (LIB-NAT)," Journal of Library Automation, II (September, 1969), 158.

What kind of research is appropriate to the design or redesign of a network of library services?

Much of what has been researched in the area of library network services has been concerned with the operating and cost efficiency of a given system. However, it is also important that network service be accountable and justifiable in terms of quality of service and patron satisfaction, i.e., the effectiveness with which it meets its objectives.

Librarianship does not have, or does not generally use, relevant or valid measures of effectiveness of library service. Reference service, like other qualitative library services, has been evaluated in terms of value judgments of effectiveness, many of which can be defined only in terms of varying and individual subjective opinion.

It is not surprising then that little evaluation has been made of the effectiveness of library cooperation and library networks, although there is a wealth in the literature on the need for such appraisal before advanced planning and sound implementation can occur.

A United States Senate committee statement in 1960 summarized the direction of needed research:

> The most pressing need therefore is for the development of reliable methods for studying and assessing requirements, for determining the role of information and information services in science, and for measuring the value of information and the utility and effectiveness of present and proposed services.[1]

The purpose of this report is to evaluate the current state of the Colorado Statewide Reference Service Network, with the hoped-for result of aiding the Colorado State Library in redesign of the Service in terms of the proposed goals and in the formulation of new objectives to give a high level of service.

---

[1] U.S. Senate Committee on Government Operations, Documentation, Indexing, and Retrieval of Scientific Information, 86th Congress, 2nd Session, Senate Report No. 113 (Washington, D.C.: U.S.G.P.O., 1960), p. 110.

An effort has been made to develop a methodology for reliable measurements of network activity and assessment of requirements. Through more qualitative tools, some measure of participating libraries' satisfaction at all levels of service was sought.

Because of the probable impact that these anticipated research results could have on the direction and funding of the Network and on further evaluations, particular care has been given to accuracy in reporting and to interpretation of the findings.

The Need for a State-wide Reference Network

The present period in history is characterized by man's widespread need for rapid access to information. Colorado citizens are no exception. An appraisal of some features of Colorado's geography, information resources, population characteristics, and economy partially illustrates the need for state-wide coordination and cooperation in the development of an efficient and effective network to facilitate access to information for all citizens, wherever their locations and whatever their information needs.

Geography

There are three major regions in Colorado (see Figure 1 , p. 6). These are: the Rocky Mountains topped by the Continental Divide, the plains to the east, and, to the west, an extremely fragmented and rugged terrain. To the east of the Continental Divide lies two-thirds of the state's land area, and the other one-third lies to the west. The Rocky Mountains provide a geographical barrier between the two parts of the state. Although a few railroads and several highways provide routes for passage over the mountains, climatic conditions and time-consuming travel hinder the movement of people and the interchange of ideas between the western slope and the eastern part of the state.

On the eastern high plains, transportation and personal communication constitute no real problems. To an adequate extent, railroads, highways and airports cover the entire area. On the other hand, circuitous routes and costly effort are often necessary to go from one area to another in the western slope regions. Even within the geographical boundaries of an individual public library system, communication and transportation can be difficult because of the system's topography (see Figure 1 , p. 6).

Information Resources

Public libraries are distributed state-wide, as can be seen in Figure 2 , p. 7 , but the largest and most adequate public library collections are centered in urban areas on the eastern plains. With the similar concentration of colleges and universities (see Figure 3 , p. 8), this presents a problem of access to information resources for those located in distant and remote western areas of the state.

Population Characteristics

As of April 1, 1970, the population of Colorado was 2,178,176,

FIGURE 1
MAJOR TOPOGRAPHICAL REGIONS OF COLORADO

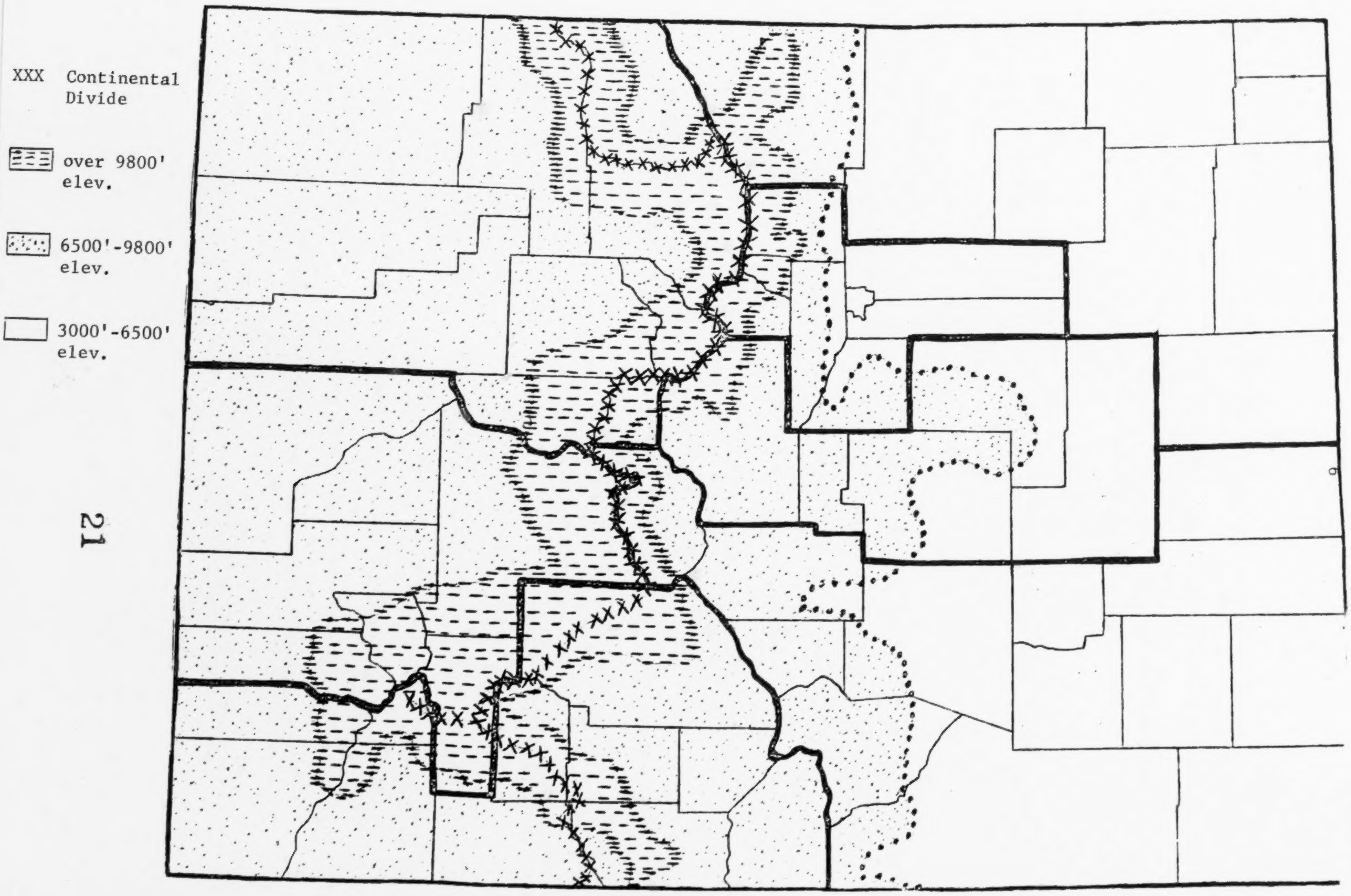
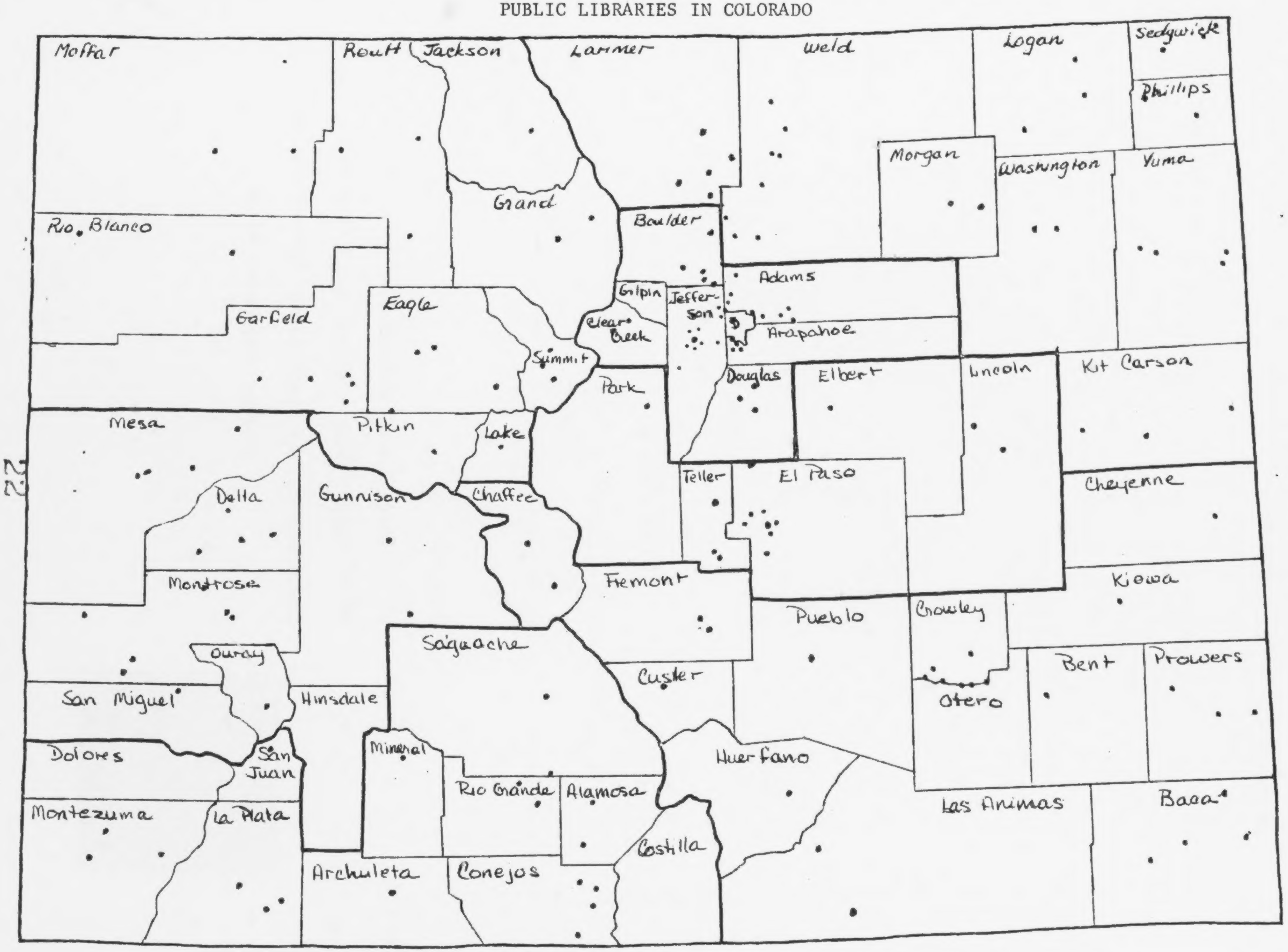

XXX Continental Divide
over 9800' elev.
6500'-9800' elev.
3000'-6500' elev.
6

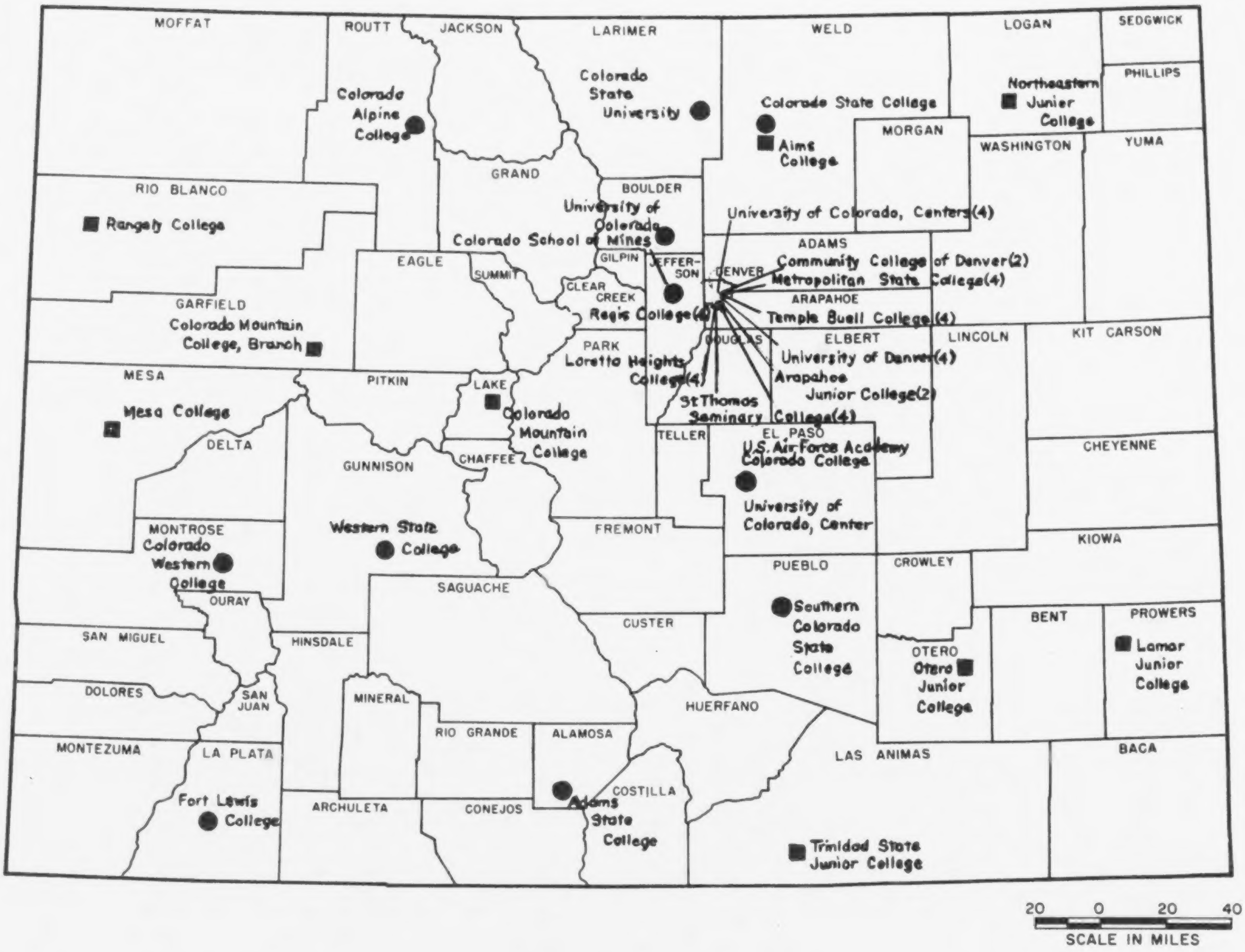
FIGURE 2
PUBLIC LIBRARIES IN COLORADO


Moffar
Routt
Jackson
Larmer
Weld
Logan
Sedgwick
Phillips
Morgan
Washington
Yuma
Grand
Rio Blanco
Boulder
Adams
Gilpin
Jefferson
Clear Creek
Arapahoe
Garfeld
Eagle
Summit
Park
Douglas
Elbert
Lincoln
Kit Carson
Mesa
Pitkin
Lake
Teller
El Paso
Delta
Gunnison
Chaffee
Cheyenne
Montrose
Fremont
Kiowa
Pueblo
Crowley
Ouray
Saguache
Custer
Bent
Prowers
San Miguel
Hinsdale
Otero
Dolores
San Juan
Mineral
Huerfano
Rio Grande
Alamosa
Las Animas
Baca
Montezuma
La Plata
Costilla
Archuleta
Conejos

from Directory of Colorado Libraries, Colo. Dept. of Educ., 1970

FIGURE 3

COLORADO COLLEGES & UNIVERSITIES

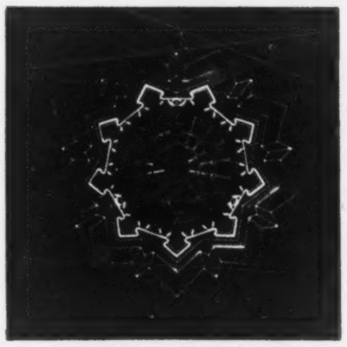

MOFFAT
ROUTT
JACKSON
LARIMER
WELD
LOGAN
SEDGWICK
PHILLIPS
Colorado Alpine College
Colorado State University
Colorado State College
Aims College
MORGAN
Northeastern Junior College
WASHINGTON
YUMA
GRAND
BOULDER
RIO BLANCO
Rangely College
University of Colorado
Colorado School of Mines
University of Colorado, Centers(4)
ADAMS
Community College of Denver(2)
Metropolitan State College(4)
EAGLE
SUMMIT
GILPIN
JEFFERSON
DENVER
CLEAR CREEK
ARAPAHOE
Regis College(4)
Temple Buell College(4)
GARFIELD
Colorado Mountain College, Branch
PARK
Loretto Heights College(4)
DOUGLAS
ELBERT
University of Denver(4)
Arapahoe Junior College(2)
LINCOLN
KIT CARSON
MESA
Mesa College
PITKIN
LAKE
Colorado Mountain College
St Thomas Seminary College(4)
DELTA
GUNNISON
CHAFFEE
TELLER
EL PASO
U.S. Air Force Academy
Colorado College
CHEYENNE
University of Colorado, Center
MONTROSE
Colorado Western College
Western State College
FREMONT
KIOWA
OURAY
SAGUACHE
PUEBLO
CROWLEY
SAN MIGUEL
HINSDALE
CUSTER
Southern Colorado State College
BENT
PROWERS
OTERO
Otero Junior College
Lamar Junior College
DOLORES
SAN JUAN
MINERAL
HUERFANO
MONTEZUMA
LA PLATA
RIO GRANDE
ALAMOSA
LAS ANIMAS
BACA
Fort Lewis College
ARCHULETA
CONEJOS
COSTILLA
Adams State College
Trinidad State Junior College
20 0 20 40
SCALE IN MILES

LEGEND

■ (2) Two Year College

● (4) Four Year College or University

Data Source: Colorado State Commission on Higher Education, 1968



according to a preliminary count of returns of the 1970 census.[1] This figure represents an increase of 424,229,000 or 24 per cent over the 1960 count of 1,753,947. The increase was primarily in the counties of Adams, Arapahoe, Boulder, El Paso, Jefferson and Pitkin.

Currently, more than 70 per cent of the state's population is located in a narrow band extending from Fort Collins in the north to Pueblo in the south. The greatest increases in population are occurring in these same already-urban areas. The counties of Chaffee, Eagle, Garfield, Gunnison, Lake, Mineral, Pitkin, and San Juan, not located in the north-to-south band, did, however, show a population increase of more than 16.8 per cent in the last decade.

State-wide population distribution based on 1968 population estimates is illustrated in Figure 4 , p. 10; the percentage of change in population from 1960 to 1968 is represented in Figure 5 , p. 11.

In 1965, the non-white population was 3.5 per cent of the state's total population, with a predicted ratio of 62 per cent growth for this group by 1975 in contrast to a growth of 16.7 per cent in the same period for the white population.[2]

The state average for educational attainment is 12.1 years, with urban areas having a higher educational level than rural areas (see Figure 6 , p. 12). Colleges and universities are concentrated in regions representing higher educational achievement, and the highest percentage of students entering colleges comes from these areas.

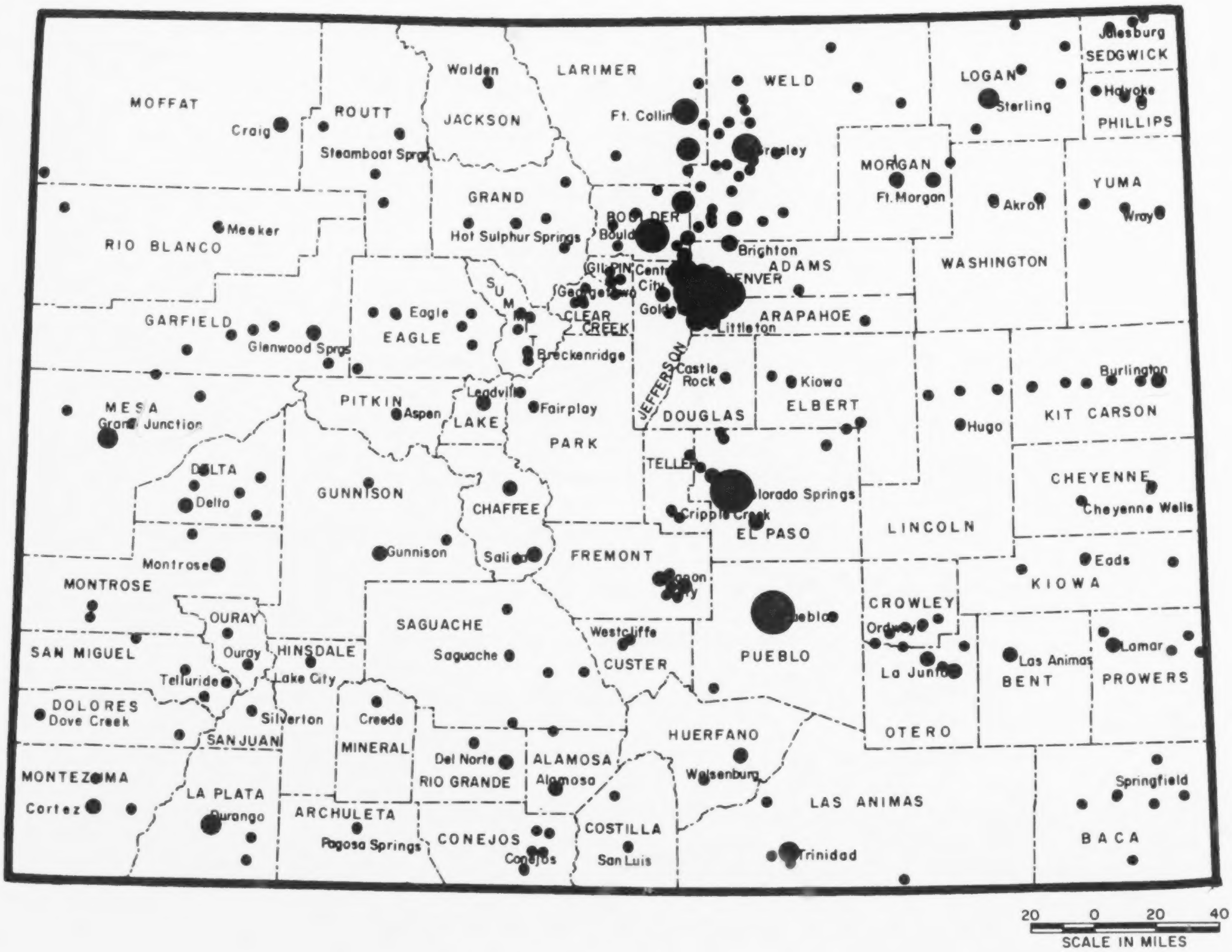
---

[1] U.S. Department of Commerce/Bureau of the Census, 1970 Census of Population, Preliminary Reports, October, 1970.

[2] Colorado State Planning Office, Colorado Preliminary State Development Plan; A Four Corners Regional Commission Technical Assistance Project (Denver, Colo.: State Planning Office, 1969), p. 25.

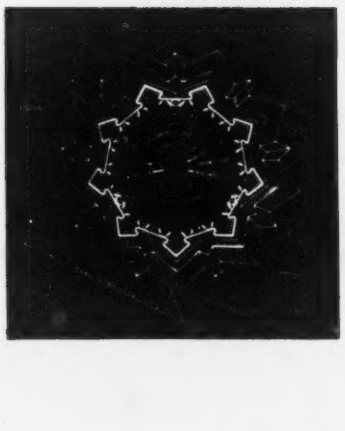
FIGURE 4

POPULATION DISTRIBUTION


MOFFAT
Craig
ROUTT
Steamboat Sprgs
JACKSON
Walden
LARIMER
Ft. Collins
WELD
Greeley
LOGAN
Sterling
Julesburg
SEDGWICK
Holyoke
PHILLIPS
RIO BLANCO
Meeker
GRAND
Hot Sulphur Springs
BOULDER
Boulder
Brighton
ADAMS
DENVER
MORGAN
Ft. Morgan
Akron
YUMA
Wray
WASHINGTON
GARFIELD
Glenwood Sprgs
Eagle
EAGLE
S
U
M
M
I
T
GILPIN
Central City
Georgetown
CLEAR CREEK
Golden
ARAPAHOE
Littleton
Breckenridge
JEFFERSON
Castle Rock
DOUGLAS
Kiowa
ELBERT
MESA
Grand Junction
PITKIN
Aspen
Leadville
LAKE
Fairplay
PARK
Hugo
Burlington
KIT CARSON
DELTA
Delta
GUNNISON
CHAFFEE
TELLER
Colorado Springs
Cripple Creek
EL PASO
LINCOLN
CHEYENNE
Cheyenne Wells
Montrose
MONTROSE
Gunnison
Salida
FREMONT
Canon City
Eads
KIOWA
SAGUACHE
Saguache
Westcliffe
CUSTER
PUEBLO
Pueblo
CROWLEY
Ordway
La Junta
Las Animas
BENT
Lamar
PROWERS
OURAY
Ouray
SAN MIGUEL
Telluride
HINSDALE
Lake City
DOLORES
Dove Creek
Silverton
SAN JUAN
Creede
MINERAL
Del Norte
RIO GRANDE
ALAMOSA
Alamosa
HUERFANO
Walsenburg
OTERO
MONTEZUMA
Cortez
LA PLATA
Durango
ARCHULETA
Pagosa Springs
CONEJOS
Conejos
COSTILLA
San Luis
LAS ANIMAS
Trinidad
Springfield
BACA
20
0
20
40
SCALE IN MILES

LEGEND

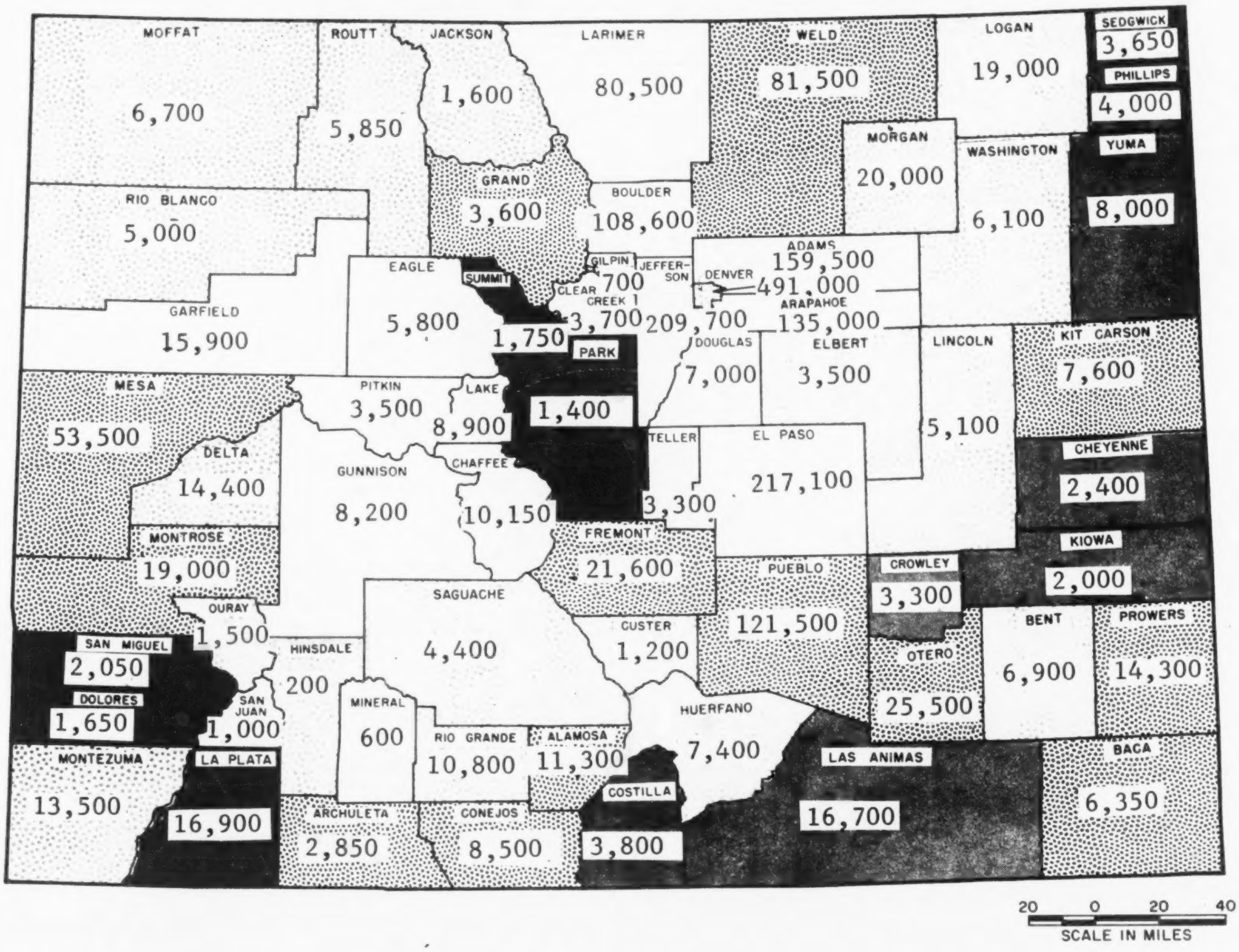
- ● 0–2499
- ● 2500–9999
- ● 10,000–24,999
- ● 25,000–49,999
- ● 50,000–99,999
- ● 100,000–199,999
- ● 200,000 & Above



Data Source: Colorado State Planning Office, 1968

FIGURE 5

POPULATION ESTIMATE 1968
PERCENT CHANGE IN POPULATION 1960-68


MOFFAT
6,700
ROUTT
5,850
JACKSON
1,600
LARIMER
80,500
WELD
81,500
LOGAN
19,000
SEDGWICK
3,650
PHILLIPS
4,000
RIO BLANCO
5,000
GRAND
3,600
BOULDER
108,600
MORGAN
20,000
WASHINGTON
6,100
YUMA
8,000
GARFIELD
15,900
EAGLE
5,800
SUMMIT
1,750
GILPIN
700
CLEAR CREEK
3,700
JEFFERSON
209,700
DENVER
491,000
ADAMS
159,500
ARAPAHOE
135,000
PARK
1,400
DOUGLAS
7,000
ELBERT
3,500
LINCOLN
5,100
KIT CARSON
7,600
MESA
53,500
PITKIN
3,500
LAKE
8,900
DELTA
14,400
GUNNISON
8,200
CHAFFEE
10,150
TELLER
3,300
EL PASO
217,100
CHEYENNE
2,400
MONTROSE
19,000
FREMONT
21,600
PUEBLO
121,500
CROWLEY
3,300
KIOWA
2,000
OURAY
1,500
SAGUACHE
4,400
CUSTER
1,200
SAN MIGUEL
2,050
HINSDALE
200
OTERO
25,500
BENT
6,900
PROWERS
14,300
DOLORES
1,650
SAN JUAN
1,000
MINERAL
600
RIO GRANDE
10,800
ALAMOSA
11,300
HUERFANO
7,400
MONTEZUMA
13,500
LA PLATA
16,900
ARCHULETA
2,850
CONEJOS
8,500
COSTILLA
3,800
LAS ANIMAS
16,700
BACA
6,350
20 0 20 40
SCALE IN MILES

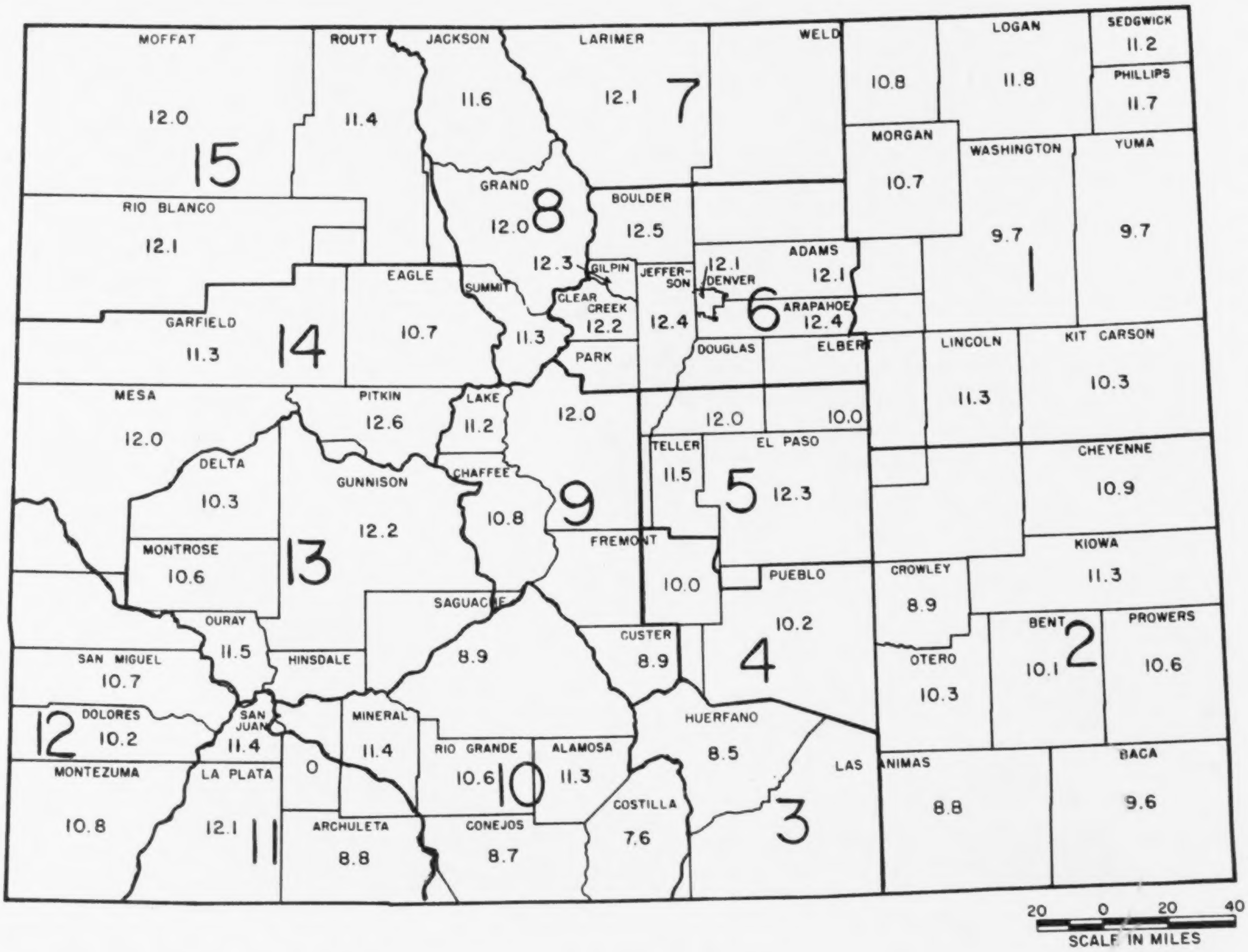
LEGEND

- 13,500 1968 Population Estimate (State : 2,048,000)
- ■ More Than 10% Decrease
- □ 0–10% Decrease
- ▨ 0–16.8% Increase
- □ More Than 16.8% Increase
  (State Average: 16.8%)

Data Source: Colorado State Planning Office

FIGURE 6

MEDIAN SCHOOL YEARS COMPLETED 1960


MOFFAT
12.0
15
ROUTT
11.4
JACKSON
11.6
LARIMER
12.1
7
WELD
10.8
LOGAN
11.8
SEDGWICK
11.2
PHILLIPS
11.7
MORGAN
10.7
WASHINGTON
9.7
1
YUMA
9.7
RIO BLANCO
12.1
GRAND
12.0
8
12.3
BOULDER
12.5
GILPIN
JEFFERSON
12.4
12.1
DENVER
ADAMS
12.1
6
ARAPAHOE
12.4
CLEAR CREEK
12.2
SUMMIT
11.3
EAGLE
10.7
GARFIELD
11.3
14
PARK
DOUGLAS
12.0
ELBERT
10.0
LINCOLN
11.3
KIT CARSON
10.3
MESA
12.0
PITKIN
12.6
LAKE
11.2
12.0
TELLER
11.5
EL PASO
5
12.3
CHEYENNE
10.9
DELTA
10.3
GUNNISON
12.2
CHAFFEE
10.8
9
FREMONT
10.0
KIOWA
11.3
MONTROSE
10.6
13
PUEBLO
10.2
CROWLEY
8.9
SAGUACHE
8.9
CUSTER
8.9
4
OTERO
10.3
BENT
10.1
2
PROWERS
10.6
OURAY
11.5
SAN MIGUEL
10.7
HINSDALE
DOLORES
10.2
12
SAN JUAN
11.4
MINERAL
11.4
RIO GRANDE
10.6
10
ALAMOSA
11.3
HUERFANO
8.5
LAS ANIMAS
8.8
BACA
9.6
MONTEZUMA
10.8
LA PLATA
12.1
11
0
ARCHULETA
8.8
CONEJOS
8.7
COSTILLA
7.6
3
20
0
20
40
SCALE IN MILES

LEGEND

10.8 Median School Years Completed
(State Average : 12.1)

0 No Data Available

12 Colorado Planning Region Number

Data Source : U.S. Department of Commerce,
Bureau of Census, 1960,
Colorado State Planning Office

Figure 7 , p. 14 represents the location and the number of high school graduates and the percentage entering Colorado colleges in 1965.

Economy

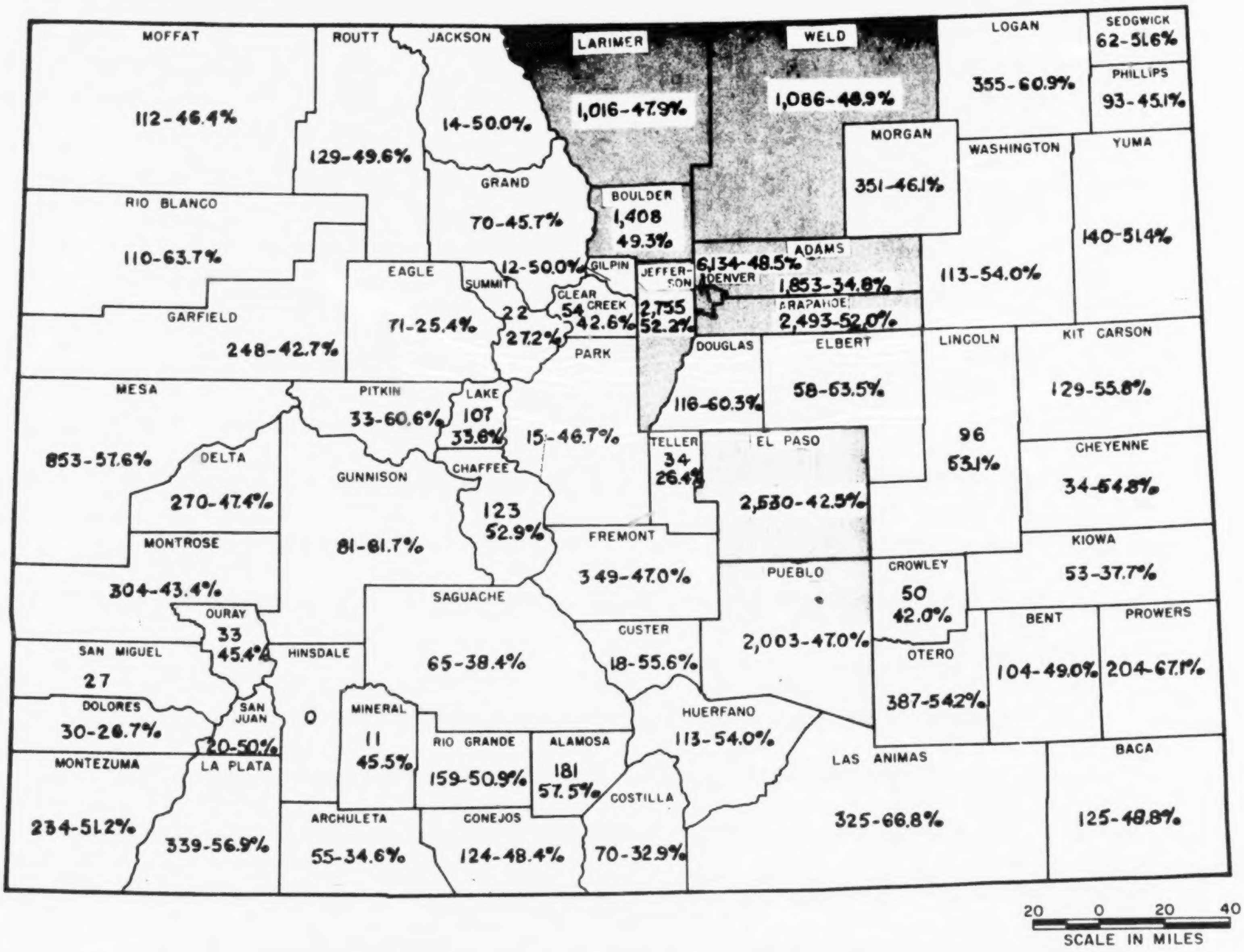
Colorado, like many agricultural states, has experienced a steady decline in agricultural employment. Between 1960 and 1970 this decrease was 23 per cent. Although agricultural employment has been dropping, it is still of tremendous importance to the state economy. On the other hand, employment in non-agricultural industries has steadily risen. Industries such as trade, services, government, finance, insurance, real estate, manufacturing, and construction have shown the sharpest increases. Table 1 , p. 15 indicates in more detail the employment by industry, with projected percentages of change from 1960 to 1970 and 1975.

Colorado is the most important wholesale receiving and distribution center in the Rocky Mountain states, and steady growth of the retail and wholesale trade is expected to maintain this industry as the largest source of state employment. Services is the second largest source of employment, with a substantial share of jobs resulting from services to tourists and visitors. Employment of civilians in government positions ranks third, the greatest growth stemming from an increased need for teachers and school personnel. It is expected that government employment will rise 55 per cent by 1975.

There has been a steady increase in personal income from 1950 to 1967. The nearly 300 per cent increase in Colorado is greater than the national increase of 260 per cent for the same period. The major sources of wage and salary personal income in 1966 were wholesale and

FIGURE 7

NUMBER OF HIGH SCHOOL GRADUATES, % ENTERING COLORADO COLLEGES-1965


MOFFAT
112-46.4%
ROUTT
129-49.6%
JACKSON
14-50.0%
LARIMER
1,016-47.9%
WELD
1,086-48.9%
LOGAN
355-60.9%
SEDGWICK
62-51.6%
PHILLIPS
93-45.1%
RIO BLANCO
110-63.7%
GRAND
70-45.7%
BOULDER
1,408
49.3%
MORGAN
351-46.1%
WASHINGTON
113-54.0%
YUMA
140-51.4%
GARFIELD
248-42.7%
EAGLE
71-25.4%
SUMMIT
22
27.2%
12-50.0%
GILPIN
CLEAR CREEK
54
42.6%
JEFFERSON
2,755
52.2%
ADAMS
6,134-48.5%
DENVER
1,853-34.8%
ARAPAHOE
2,493-52.0%
PARK
15-46.7%
DOUGLAS
116-60.3%
ELBERT
58-63.5%
LINCOLN
96
53.1%
KIT CARSON
129-55.8%
MESA
853-57.6%
PITKIN
33-60.6%
LAKE
107
33.6%
DELTA
270-47.4%
GUNNISON
81-81.7%
CHAFFEE
123
52.9%
TELLER
34
26.4%
EL PASO
2,530-42.5%
CHEYENNE
34-64.8%
MONTROSE
304-43.4%
FREMONT
349-47.0%
KIOWA
53-37.7%
OURAY
33
45.4%
SAGUACHE
65-38.4%
PUEBLO
2,003-47.0%
CROWLEY
50
42.0%
SAN MIGUEL
27
HINSDALE
0
CUSTER
18-55.6%
OTERO
387-54.2%
BENT
104-49.0%
PROWERS
204-67.1%
DOLORES
30-28.7%
SAN JUAN
20-50%
MINERAL
11
45.5%
RIO GRANDE
159-50.9%
ALAMOSA
181
57.5%
HUERFANO
113-54.0%
MONTEZUMA
234-51.2%
LA PLATA
339-56.9%
ARCHULETA
55-34.6%
CONEJOS
124-48.4%
COSTILLA
70-32.9%
LAS ANIMAS
325-66.8%
BACA
125-48.8%
20 0 20 40
SCALE IN MILES

LEGEND

234 Number of High School Graduates in 1965

51.2% % Entering Colorado Colleges in 1965

▨ Counties Producing 80% of High School Graduates by 1975

Data Source: Colorado State Commission on Higher Education, 1968

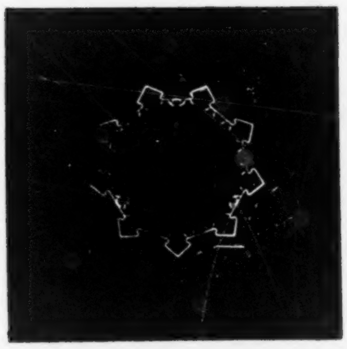


TABLE 1

EMPLOYMENT BY INDUSTRY: 1960, 1970, & 1975

Category	1960	1970*	1975*	% Change 1960-1970	% Change 1960-1975
Agriculture	49,270	37,936	33,305	-23	-32
Mining	14,847	15,401	15,964	3	7
Construction	39,883	47,389	55,139	18	38
Food	18,269	17,219	18,530	-5	1
Textile (mill products)	11,960	447	635	-96	-94
Fabricated Textiles	1,990	4,423	6,727	122	238
Lumber (furniture)	3,224	3,797	4,530	17	40
Printing (publishing)	10,273	12,744	15,542	24	51
Chemicals	3,032	3,121	3,470	2	14
Machinery	11,086	20,601	29,951	85	170
Motor Vehicles	1,026	2,352	3,994	129	289
Transport Equipment (air, railroad, ship)	2,914	4,314	6,543	48	124
Miscellaneous Manufacturing	46,803	52,201	65,389	11	39
Transportation (warehouse)	29,343	26,280	26,983	-10	-8
Communications	9,870	9,236	9,901	-6	0
Utilities	7,455	7,649	8,686	2	16
Trade	129,078	161,063	190,235	24	47
Financial (real estate)	29,943	48,425	68,583	61	129
Service	111,931	151,136	183,670	35	64
Civilian	100,815	132,650	156,560	31	55
Armed Forces	27,947	29,291	29,990	4	7
TOTAL	649,036	813,216	934,334		

* Assumed national unemployment rate of 4 per cent for projections of 1970 and 1975.

Source: Industry and Occupational Projections, Economic County Profiles, Department of Commerce, and "Economic Development Administration" retail trade, manufacturing, state and local government, and services. Table 2 , p. 17 and Figure 8 , p. 18 show Colorado's major sources of personal income for 1958 and 1966 and the per capita adjusted gross income for 1967.

The above statistics and projections for population, education, and employment indicate rapid growth and change in Colorado. These, in turn, imply increased need for information. If there are to be no boundaries in uniform state development and property and equitable and equalized library services for all residents of Colorado, the necessity for planning and implementing a workable state-wide reference system is apparent.

Background

For many years, Colorado libraries have responded to information needs with various forms of consolidation of resources and abilities, and with the cooperation of librarians whose goals have been to give quality reference services. Attempts at cooperation and coordination have been made in the acquisition, cataloging, storing, and dissemination of materials. A popular and more recent effort in this direction has been the innovation of "networks for knowledge" to facilitate optimal access to information for more individual users and from more and varied information agencies.

Accessibility to information and materials beyond an individual library's resources has been developed, improved, and expanded in Colorado from community and regional cooperative efforts to a state-wide system of operation. A formal statement of the objective of "establishing a complete statewide reference service to permit the maximum use of the resources of all libraries by residents of the state" first appeared in

TABLE 2

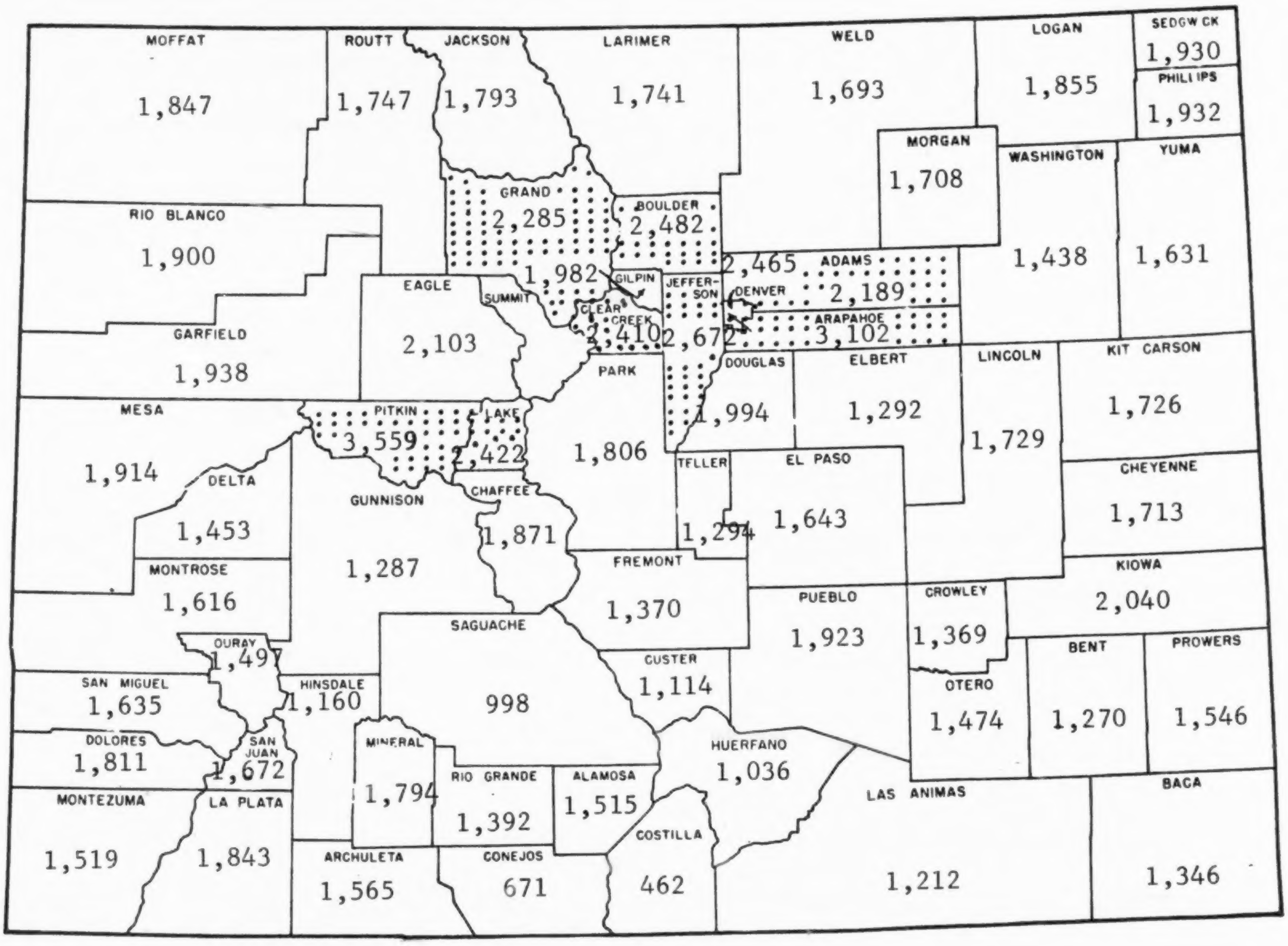
COLORADO PERSONAL INCOME
MAJOR SOURCES IN MILLIONS

Categories	1958	1966	% Change
Total Personal Income	$3,503	$5,700	62.7%
Total Wage & Salary Disbursement	2,210	3,787	71.4
Farms	39	54	38.5
Mining	76	101	32.9
Contract Construction	188	260	38.3
Manufacturing	370	681	84.0
Wholesale and Retail Trade	454	689	51.8
Finance Insurance and Real Estate	98	177	80.6
Transportation	145	202	39.3
Communication & Public Utilities	81	132	63.0
Services	224	462	106.2
Federal Government-Civilian	179	294	64.2
Federal Government-Military	128	229	78.9
State and Local Government	226	500	121.2
Other	1	6	600.0
Non-Wage & Non-Salary Disbursement	1,362	2,082	52.9
Other Labor Income	68	165	142.6
Farm Proprietors Income	179	172	-3.9
Non-farm Proprietors Income	399	498	24.8
Property Income	464	805	73.5
Transfer of Payment	252	442	75.4
Less Personal Contributions for Social Insurance	-69	-169	-144.0

Source: Statistical Abstract of the U.S. 1960 and 1968.

FIGURE 8

PER CAPITA ADJUSTED GROSS INCOME , 1967


MOFFAT
1,847
ROUTT
1,747
JACKSON
1,793
LARIMER
1,741
WELD
1,693
LOGAN
1,855
SEDGWICK
1,930
PHILLIPS
1,932
MORGAN
1,708
WASHINGTON
1,438
YUMA
1,631
RIO BLANCO
1,900
GRAND
2,285
BOULDER
2,482
1,982
GILPIN
SUMMIT
EAGLE
2,103
CLEAR CREEK
2,410
JEFFERSON
2,672
2,465
DENVER
ADAMS
2,189
ARAPAHOE
3,102
GARFIELD
1,938
PARK
1,806
DOUGLAS
1,994
ELBERT
1,292
LINCOLN
1,729
KIT CARSON
1,726
MESA
1,914
PITKIN
3,559
LAKE
2,422
DELTA
1,453
GUNNISON
1,287
CHAFFEE
1,871
TELLER
1,294
EL PASO
1,643
CHEYENNE
1,713
MONTROSE
1,616
FREMONT
1,370
KIOWA
2,040
OURAY
1,497
SAGUACHE
998
PUEBLO
1,923
CROWLEY
1,369
BENT
1,270
PROWERS
1,546
SAN MIGUEL
1,635
HINSDALE
1,160
CUSTER
1,114
OTERO
1,474
DOLORES
1,811
SAN JUAN
1,672
MINERAL
1,794
HUERFANO
1,036
MONTEZUMA
1,519
LA PLATA
1,843
RIO GRANDE
1,392
ALAMOSA
1,515
COSTILLA
462
LAS ANIMAS
1,212
BACA
1,346
ARCHULETA
1,565
CONEJOS
671

LEGEND

1,519 Per Capita Adjusted Gross Income

∴∴ Above State Average
(State Average $2180)

☐ Below State Average

DATA SOURCE: Colorado State Department of Revenue

1967 in the Colorado Plan for Library Development.[1]

With the advent of the Library Services Act of 1956, funds were made available for systematic designs for cooperation. Many of these plans were implemented to assist in the designing and the structuring of previously informal agreements. In Colorado, funds were first granted to promote further development of public library services in sparsely populated areas. Two demonstration projects were operated in rural areas in the first four years of the Library Services Act program. These demonstrations met the objectives of that program, which were:

1) "to make service available where none exists and

2) to equalize library opportunities within the state."[2]

In 1960, a need for improved services in heavily populated, unincorporated areas was felt. As a result, the Denver Tri-County Reference Services Proposal was submitted and accepted. The reference project, later known as JADA, was implemented to meet the additional demands for library services created by the burgeoning population in the metropolitan geographical areas of the city and county of Denver and the three surrounding counties of Adams, Arapahoe, and Jefferson. The stated objective of the JADA project was to provide service "that shall include the loan of reference materials between libraries and reference assistance at several levels."[3]

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[1] Colorado State Library, Colorado Plan for Library Development (Denver, Colo.: State Library, 1967), p. 21.

[2] Colorado State Library, Development of Statewide Public Library Reference Service in Colorado Between 1960 and 1967 (Denver, Colo.: State Library), p. 2.

[3] Ibid., p. 2.

The success of Metropolitan Denver's JADA demonstration project, together with the common need for the extension of cooperative services to other public libraries in the state, led to the founding, through the Colorado State Library grants program, of two further demonstration projects. The first of these, the Western Slope Regional Materials Center, hoped to meet a

> definite need that exists for the coordination of reference materials and locating of reference materials on the Western Slope . . . and the rapid communication of unfilled reference requests via Wide-Area Telephone Service and teletype to the Bibliographical Center for Research . . .[1]

The second project, the Weld County Regional Materials Center, was initiated in January, 1965 and served public libraries of eight counties without charge. If an author-title or subject request could not be answered locally, the request proceeded first to the Regional Materials Center, then to the State Reference Center at the Denver Public Library, and then, if necessary, to the Bibliographical Center for Research for regional or national location information.

In 1965, the objectives and cooperative reference services plan among all public libraries were described in the document State-Wide Public Library Reference Service for Colorado. It stated that,

> the Colorado plan for public library services establishes among its objectives that the highest level of reference service shall be made available to all citizens of the state . . . It includes: (1) library systems in one or more counties or parts of counties, (2) regional materials centers in designated areas of the state, (3) statewide reference centers.[2]

The "Statewide Reference Center Announcement," sent to public libraries in Colorado, designated the Denver Public Library as the first Statewide Reference Center and the Bibliographical Center for Research "to search for locations outside of the state or in university and special library collections in Colorado."[1] The Announcement included an outline to be used as a guideline for operation.

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[1] Ibid., p. 3.

[2] Colorado State Library, State-Wide Public Library Reference Service for Colorado (Denver, Colo.: State Library, January 21, 1965), p. 3.

In 1967, the Colorado Plan for Library Development was written as a

> result of the combined efforts of librarians representing all types of libraries in Colorado and of other groups and persons interested in developing a comprehensive plan for library service for the state. It embraces a number of recommendations from the Nelson Report of 1965 and includes many recommendations from librarians, as expressed at hearings conducted by the Colorado Council for Library Development, and at meetings of the Library Development Committee of the Colorado Library Association.[2]

The Colorado Plan outlined a program for improved library services, equalized opportunities, and, for the first time, suggested the requirements for coordination and cooperation among all types of libraries in the state. One of the goals in the Plan was the "development of an information or reference network to include all Colorado libraries, utilizing effective communication systems to provide rapid access to information."[3]

The plan of operation was detailed in the document:

> One of the most urgent requirements for good library programs in Colorado is a complete network of reference service. A state-wide reference network is established to operate through the following channels:

---

[1] Colorado State Library, "Statewide Reference Center Announcement" (Denver, Colo.: State Library, February 1, 1965), p. 1.

[2] Colorado State Library, Colorado Plan for Library Development, p. iii.

[3] Ibid., p. 15.

1. Public libraries will serve community residents primarily.
2. The libraries of tax-supported and private colleges and universities will be primarily responsible for serving the personnel and students of the institutions of higher learning.
3. School libraries will serve elementary and secondary school personnel and students primarily.
4. Junior college libraries will serve the personnel and students of junior colleges primarily.
5. Special libraries will be responsible for serving the employees of the agencies or companies which operate these special libraries.
6. Systems headquarters will handle reference requests of persons without local libraries who live within system boundaries.

The following organizational structure will provide operation channels for the reference network service:

1. The headquarters libraries of public library systems will function as primary reference centers for public libraries, school district library agencies and junior college libraries located within system boundaries. Requests from these libraries are sent to system headquarters libraries which perform the reference service if system resources permit. (Until such time as the entire state is served by library systems, the State Library will perform the system headquarters reference function for areas not in systems.)
2. System headquarters will also be designated as regional materials centers and will be provided with additional resources for this service.*
3. When the resources within systems cannot fill requests, system headquarters libraries refer requests to the Bibliographical Center for Research, Rocky Mountain Region, Inc., which will serve as a State Communications Center.
4. College and university libraries and special libraries forward requests directly to the Bibliographical Center for Research.

---

*Regional materials centers were later named System Area Resource Centers or SARCs.

5. The Bibliographical Center for Research, upon receipt of requests, refers them to the appropriate State-wide Reference Center. If these requests cannot be filled by the Reference Centers, they may be returned to the Bibliographical Center for Research for referral outside the state.
6. Designated State-wide Reference Centers are the Denver Public Library which is primarily responsible for school, public and junior college service -- and the University of Colorado Library which is primarily responsible for service to college and university and to special libraries. (New funds must be provided to implement the Reference Center at the University.)

Libraries in the state will loan materials to other libraries on the basis of policies established by an interlibrary loan code based on the ALA Interlibrary Loan Code, 1956, as adapted for the state.

The University of Colorado Library and the Denver Public Library will loan federal documents or copies thereof in accordance with the Depository Library Act of 1962.

To facilitate operation of the reference service, union catalogs will be developed, and automated devices for retrieval and print-out of information and for rapid communications methods will be utilized. Financial support for the state-wide reference service will be provided as follows:

1. Reference service from system headquarters will be performed as part of the system operation and will be financed by state grants-in-aid.
2. Materials center functions of systems headquarters will be performed under contract with the State Library.
3. Reference services of the Bibliographical Center for Research and of the State-wide Reference Centers will be performed under contract with the State Library.
4. Union catalogs, automated retrieval programs and rapid communications devices will be made possible through special grants.[1]

Some elementary planning, begun by Colorado State Library personnel with the assistance of advisory groups, resulted in "A Design for

---

[1] Colorado Plan for Library Development, pp. 24-26.

Interlibrary Cooperation in Colorado"[1] and the "Plan for Development of a State-Wide Reference Service Network."[2]

In September, 1968, teletypes were installed in six regional materials centers (called SARCs) to provide a rapid communication system for transmitting messages to a State Communications Center which was located at the Bibliographical Center for Research. These messages request location information, bibliographic verification, or disposition to another point in the Network operation. The Central Colorado SARC at the Denver Public Library did not install a teletype because the State Communications Center is located in the same building. Messages are relayed by messenger to the Bibliographical Center for Research when necessary.[3]

Very gradually, some Colorado libraries have sent records of their holdings to the Bibliographical Center for Research for inclusion in its catalog, but this listing is not a complete record of the holdings of all libraries of the state or the region.

Systems were encouraged to develop system area location files, but the limiting factors of finances and time have prevented these files from becoming complete listings of resources available within the systems.

Network service was implemented primarily among public libraries in the beginning. Later, efforts were made toward the inclusion of some school libraries (through a school "contact agent" at the district level), community colleges, and institutions and state agencies (through the State Library). Special and academic libraries have never directly used the Statewide Reference Service Network because their participation was contingent upon the establishment of a second state-wide reference center at the University of Colorado. This center has not been actualized due to lack of funds.

---

[1] Marilyn Love, Colorado State Library, "A Design for Interlibrary Cooperation in Colorado " (Denver, Colo.: State Library, October 30, 1967).

[2] Colorado State Library, "Plan for Development of a State-Wide Reference Service Network " (Denver, Colo.: State Library, 1967).

[3] The Statewide Reference Service provided to participating libraries through the Colorado State Library's contractual arrangement with the Bibliographical Center for Research should not be confused with the Center's private membership, to which many state, academic, and special libraries belong independently.

Small improvements in the efficiency of the Network operations have been made since its beginning by procedural changes, in-service workshops, and the addition of resources to aid bibliographical verification.

No systematic evaluation had been made of the Network until the funding of the proposal for the evaluation which this document reports. A statement of the objectives of the Reference Service Network, supplied by the Colorado State Library for use in the present study, is in the Appendix, p. 188.

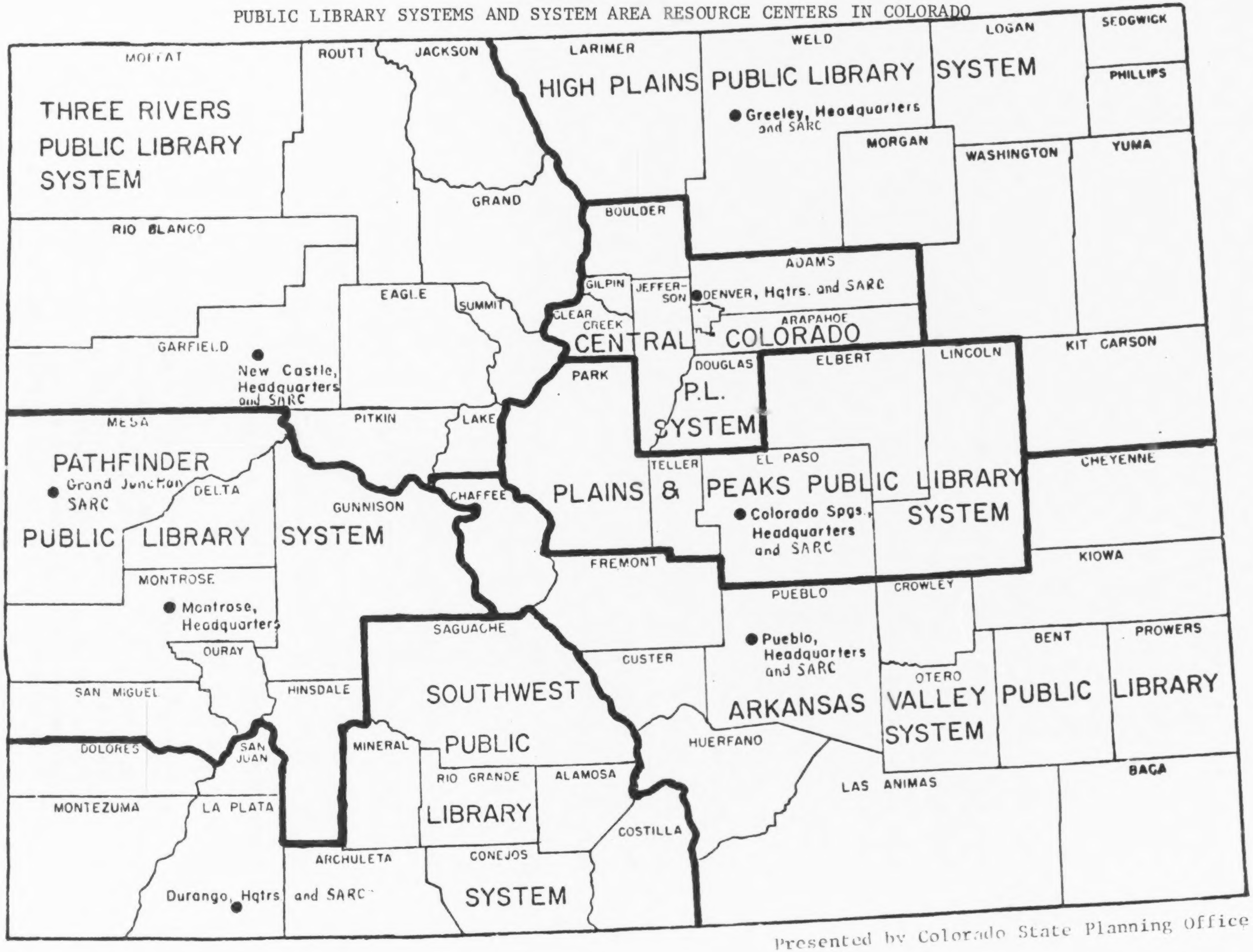
The Network's Organizational Structure

The state of Colorado is divided into seven geographic areas called Public Library Systems (see Figure 9 , p. 26). Within each system a major public library serves as System Headquarters and/or System Area Resource Center (SARC). The seven systems with their headquarters and SARCs are:

1) Arkansas Valley -- Pueblo, Headquarters and SARC
2) Central Colorado -- Denver, Headquarters and SARC
3) High Plains -- Greeley, Headquarters and SARC
4) Pathfinder -- Montrose, Headquarters; Grand Junction, SARC
5) Plains and Peaks -- Colorado Springs, Headquarters and SARC
6) Southwest -- Durango, Headquarters and SARC
7) Three Rivers -- New Castle, Headquarters and SARC

FIGURE 9

PUBLIC LIBRARY SYSTEMS AND SYSTEM AREA RESOURCE CENTERS IN COLORADO


THREE RIVERS PUBLIC LIBRARY SYSTEM
MOFFAT
ROUTT
JACKSON
LARIMER
HIGH PLAINS PUBLIC LIBRARY SYSTEM
WELD
LOGAN
SEDGWICK
PHILLIPS
Greeley, Headquarters and SARC
MORGAN
WASHINGTON
YUMA
RIO BLANCO
GRAND
BOULDER
ADAMS
GILPIN
JEFFERSON
DENVER, Hqtrs. and SARC
ARAPAHOE
EAGLE
SUMMIT
CLEAR CREEK
CENTRAL COLORADO P.L. SYSTEM
GARFIELD
New Castle, Headquarters and SARC
DOUGLAS
ELBERT
LINCOLN
KIT CARSON
PARK
MESA
PITKIN
LAKE
TELLER
EL PASO
CHEYENNE
PATHFINDER PUBLIC LIBRARY SYSTEM
Grand Junction SARC
DELTA
GUNNISON
CHAFFEE
PLAINS & PEAKS PUBLIC LIBRARY SYSTEM
Colorado Spgs., Headquarters and SARC
MONTROSE
Montrose, Headquarters
FREMONT
KIOWA
PUEBLO
CROWLEY
SAGUACHE
OURAY
Pueblo, Headquarters and SARC
CUSTER
BENT
PROWERS
SAN MIGUEL
HINSDALE
SOUTHWEST PUBLIC LIBRARY SYSTEM
OTERO
ARKANSAS VALLEY PUBLIC LIBRARY SYSTEM
DOLORES
SAN JUAN
MINERAL
HUERFANO
RIO GRANDE
ALAMOSA
BACA
MONTEZUMA
LA PLATA
LAS ANIMAS
COSTILLA
ARCHULETA
CONEJOS
Durango, Hqtrs and SARC

Presented by Colorado State Planning Office

The organizational hierarchy (see Figure 10, p. 28) consists of four levels: 1) local, 2) system, 3) state, and 4) regional and national. At the local level there are public, school, and community college libraries. At the next level are the seven System Area Resource Centers (SARCs), which function as central reference centers for their own geographic system areas. At the state level are the Bibliographical Center for Research, which functions as the State Communication Center, the Statewide Reference Center at the Denver Public Library, and the Colorado State Library, which serves both as a resource center and as a referral point for the agencies, departments, and institutions of the state government. To locate resources at the regional and national level, the Bibliographical Center for Research again serves as a Communication Center in contacts with libraries and agencies outside the state, as well as a bibliographical verifier and locator.

Certain operational procedures (see Appendix) give guidelines for a request's path through the hierarchy of the Statewide Reference Network. The sequence of channels is illustrated in Figure 11, p. 29 . When an individual library has searched its own and other local resources and still cannot fill a patron's request, a "valid" request may be sent (via phone, mail, etc.) to the SARC of the system in which the library is located. If, however, after exhausting its own resources and those of the system area, the request is still unfilled, the SARC refers the request via TWX to the Bibliographical Center for Research . For interlibrary loan requests (author-title) the Bibliographical Center determines locations. If the item is available in the Denver Public Library, the request is sent to the Statewide

FIGURE 10

STATEWIDE REFERENCE NETWORK ORGANIZATIONAL STRUCTURE

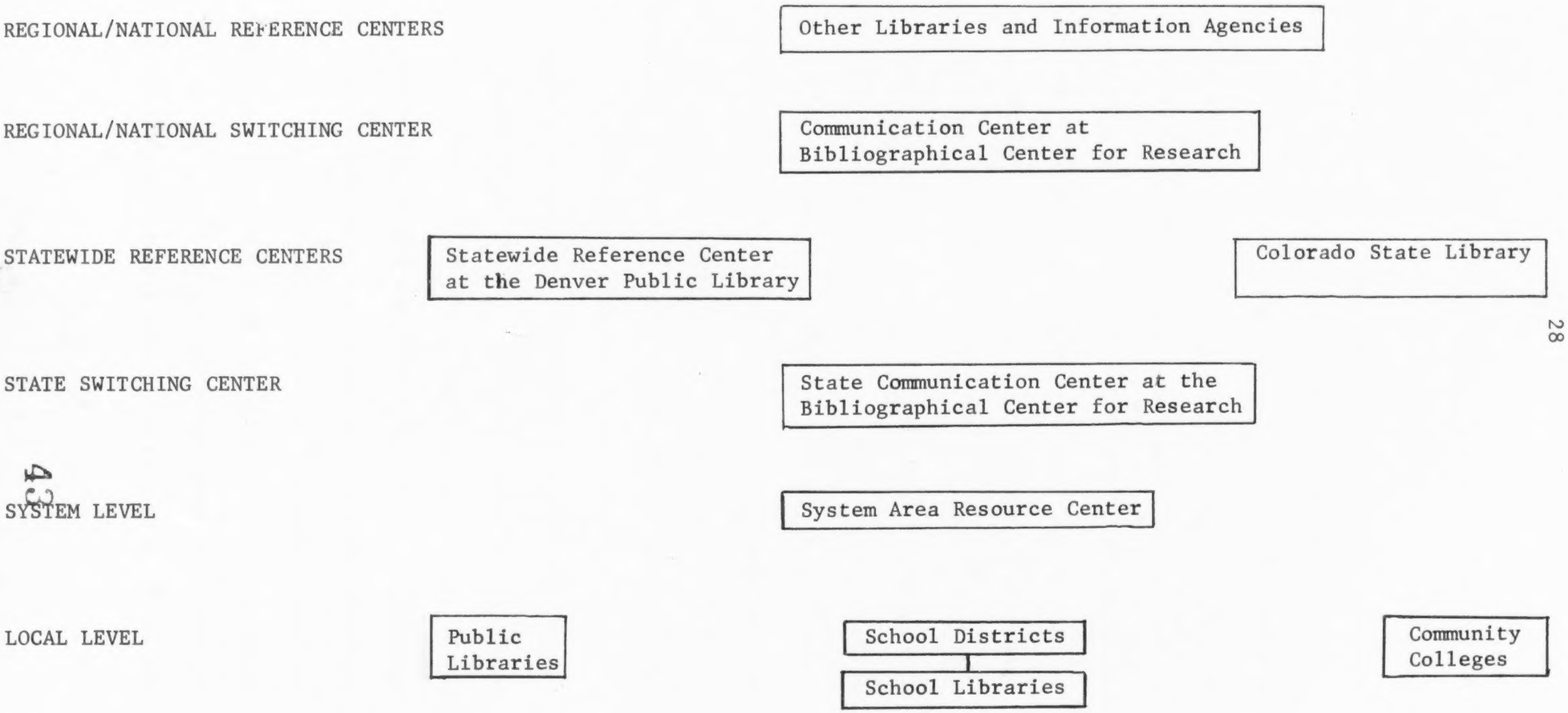
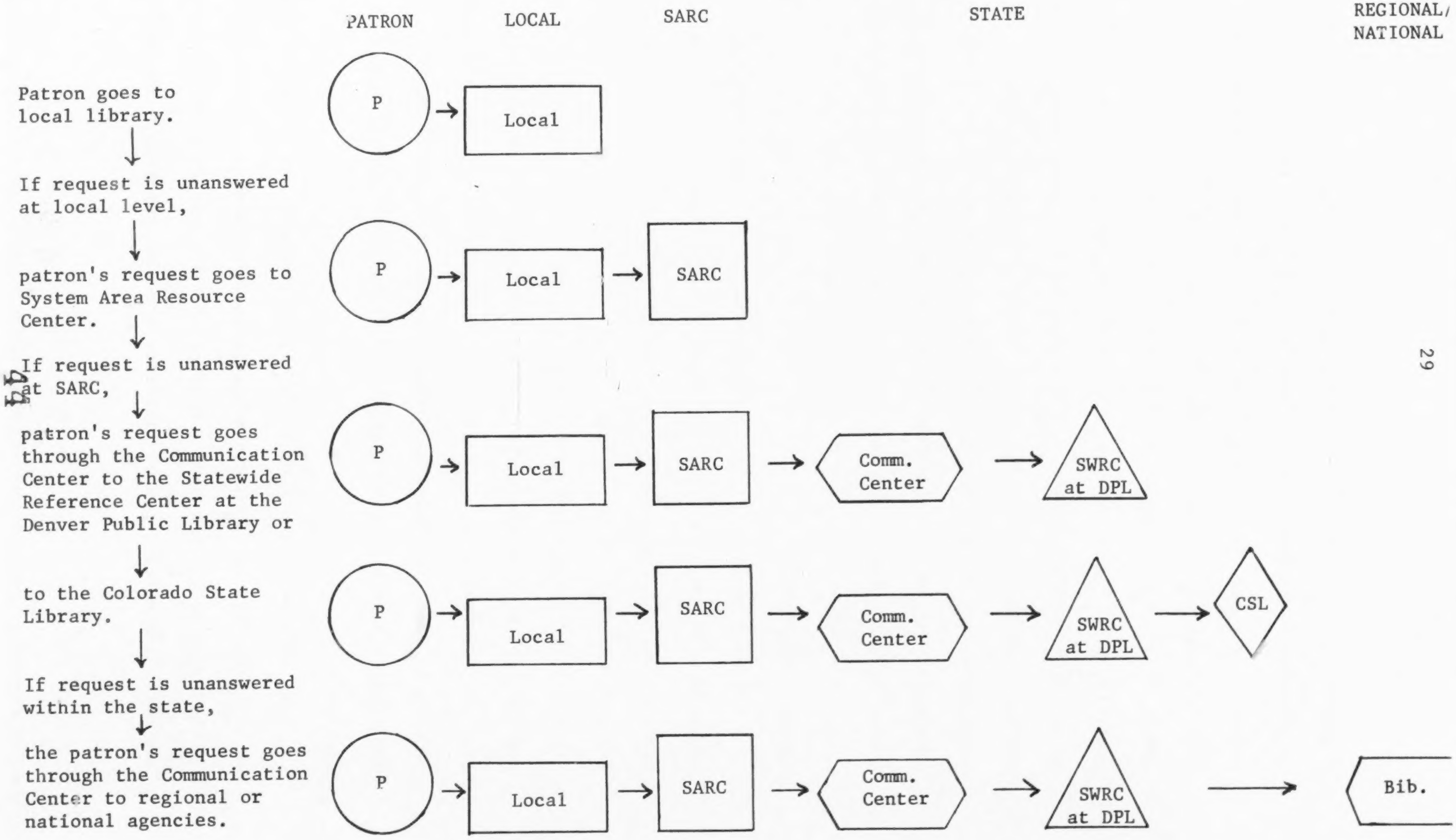

REGIONAL/NATIONAL REFERENCE CENTERS
Other Libraries and Information Agencies
REGIONAL/NATIONAL SWITCHING CENTER
Communication Center at Bibliographical Center for Research
STATEWIDE REFERENCE CENTERS
Statewide Reference Center at the Denver Public Library
Colorado State Library
STATE SWITCHING CENTER
State Communication Center at the Bibliographical Center for Research
SYSTEM LEVEL
System Area Resource Center
LOCAL LEVEL
Public Libraries
School Districts
School Libraries
Community Colleges

FIGURE 11
STATEWIDE REFERENCE NETWORK
OPERATIONAL CHANNELS


PATRON
LOCAL
SARC
STATE
REGIONAL/
NATIONAL
Patron goes to local library.
If request is unanswered at local level,
patron's request goes to System Area Resource Center.
If request is unanswered at SARC,
patron's request goes through the Communication Center to the Statewide Reference Center at the Denver Public Library or
to the Colorado State Library.
If request is unanswered within the state,
the patron's request goes through the Communication Center to regional or national agencies.
P
Local
SARC
Comm. Center
SWRC at DPL
CSL
Bib.

Reference Center at the Denver Public Library. If the item is not obtainable at the Denver Public Library, other locations -- state, regional, and national -- are TWXed back to the SARC to enable the local library to initiate its own ILL request with any of these locations. Subject requests, as distinguished from author-title requests, are relayed by messenger to the Statewide Reference Center at the Denver Public Library. The Statewide Reference Center (SWRC) utilizes the resources of the Denver Public Library to locate information and/or material which is then mailed to the local library initiating the request. If the resource materials are not found at Denver Public Library, SWRC relays the request to the Bibliographical Center for referral to the Colorado State Library or for regional/ national location.

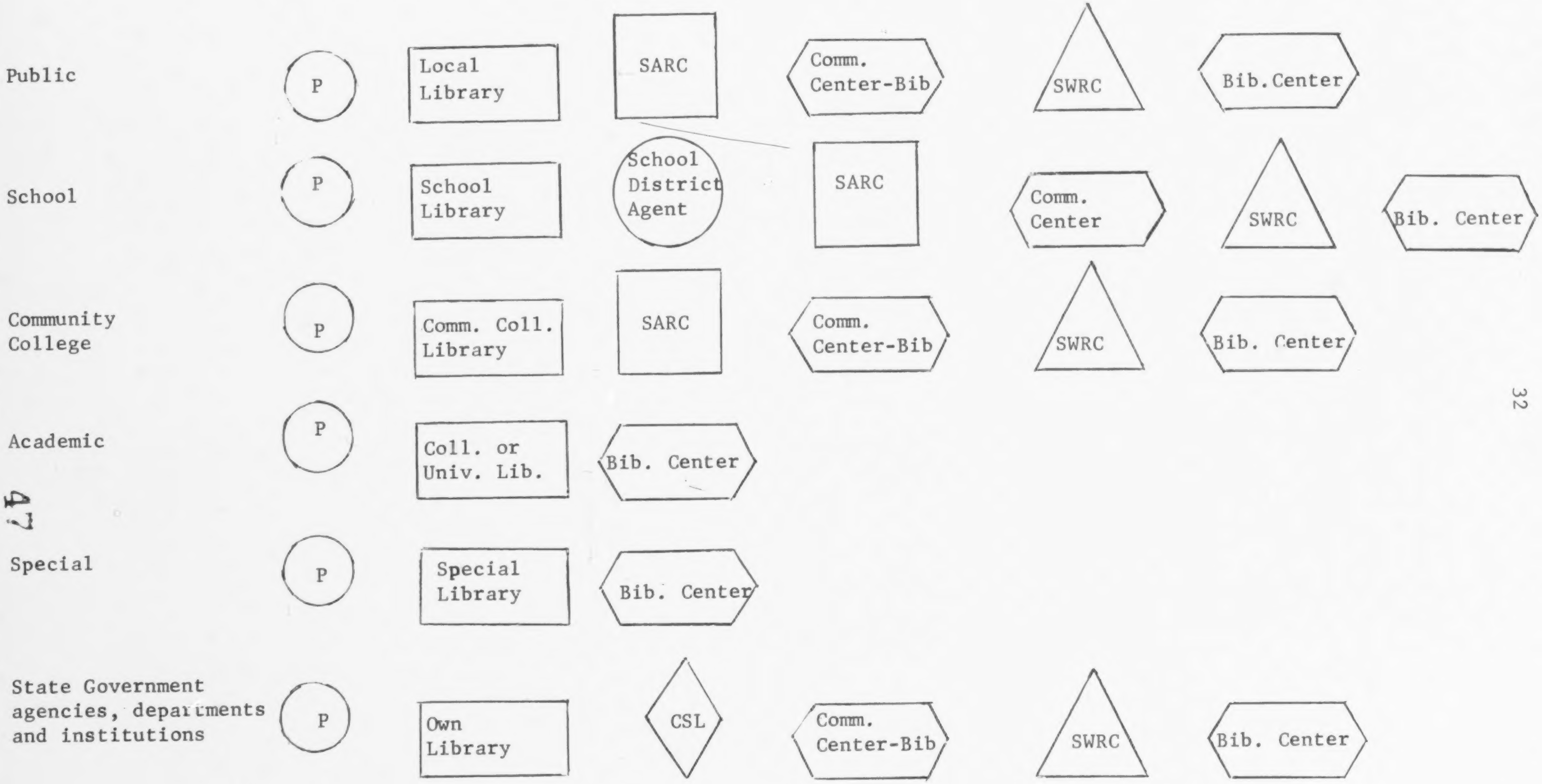
The path through the hierarchy varies for different types of libraries, as shown in Figure 12, p. 32 . Individual school libraries are to refer all requests through a designated school district agent who then contacts the appropriate SARC. College and university libraries and special libraries, however, are to refer requests directly to the Bibliographical Center for Research. It is planned that the University of Colorado Library will operate as the Statewide Reference Center for these libraries, but the funds necessary to implement a second Statewide Reference Center have not yet become available.

The Colorado State Library functions similarly to a SARC in that it receives requests from state agencies, departments, and institutions -- which may or may not have libraries of their own. Occasionally, requests from other types of libraries are also received. The Colorado

State Library searches its own and other local resources to fill these requests. If they cannot be filled, requests are referred to the Communication Center for location, or relayed to the SWRC at Denver Public.

FIGURE 12

OPERATIONAL CHANNELS FOR DIFFERENT TYPES OF LIBRARIES


Public
P
Local Library
SARC
Comm. Center-Bib
SWRC
Bib.Center
School
P
School Library
School District Agent
SARC
Comm. Center
SWRC
Bib. Center
Community College
P
Comm. Coll. Library
SARC
Comm. Center-Bib
SWRC
Bib. Center
Academic
P
Coll. or Univ. Lib.
Bib. Center
Special
P
Special Library
Bib. Center
State Government agencies, departments and institutions
P
Own Library
CSL
Comm. Center-Bib
SWRC
Bib. Center

CHAPTER II

Objectives of the Study

The objectives of the present study of the Colorado Statewide Reference Service are to answer the following questions:

1. What type of library is using the Service?
2. What type of patron is using the Service?
3. What type of request is being transmitted?
4. What type of channel is being used in message transmission?
5. What geographical location and level of service uses the Service?
6. What is the intended use of the information being requested?
7. What remarks concerning the information requested are relayed?
8. What is the total response time and the time per link in the request and response paths?
9. How much and what kind of activity is on the Network?
10. What dependency does a level of service and/or geographical location have on the Reference Service?
11. What does an input/output analysis of transactions show about the number filled, unfilled, and relayed by a particular node?
12. What is and how successful is the current administration of the Network?
13. What is the performance of the Network in regard to efficiency of operation and effectiveness of service?
14. What is the cost of the Service?

Operational Definitions

Many of the terms used in discussing state-wide networks are open to several interpretations. For the purposes of this study, the following definitions have been chosen to apply.

1. Statewide Reference Service Network (SWRN) - ". . . an information or reference network to include all Colorado libraries utilizing effective communications systems to provide rapid access to information."[1] The Network organizational structure is a pyramidal hierarchy of service with the local-level library at the base, the system level at the center, and the state level at the apex.

2. Colorado Public Library System - "an organization of public libraries within a geographical area designated by the Colorado State Library, which receives special financial support from local, regional, or state appropriations in order to provide more comprehensive library service in the geographical area served by the system . . ."[2]

3. System Area Resource Center (SARC) - the administrative unit of the reference program for each public library system; the strongest collection of public library resources in the system area and the switching station for system area requests referred or relayed to another point on the Network. A teletype is located at each SARC for communicating with the State Communications Center when requests

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[1] Colorado State Library, Colorado Plan for Library Development, p. 15.

[2] Colorado State Library, "Rules and Regulations Governing Grants for Public Library Service " (Denver, Colo.: State Library, August, 1969).

cannot be satisfied by resources within the system's boundaries.

4. System Headquarters - the administrative head of each public library system. In all cases but one, the system headquarters library is also the System Area Resource Center or SARC for reference needs of system public libraries, school districts and community college libraries located within system boundaries.

5. State Communications Center (BIB Center) - the center which performs the "switching functions," relaying and redirecting requests not filled at the local or system levels. BIB relays some teletype-transmitted responses to the system level and gives reference service for bibliographical verification and location information.[1]

6. Statewide Reference Center (SWRC) - a center to which requests are referred by BIB if they cannot be satisfied at the public, school, community college, or system level. At present the Denver Public Library functions as a SWRC for unfilled requests. A second SWRC at the University of Colorado to provide service to academic and special libraries has not yet been implemented.

7. School District Center - the switching center in each school district through which school library requests are referred or relayed to another point on the Network.

8. School Contact Agent - the reference person at the School District Center who administers the district Network program and to whom requests from the district's school libraries are referred for

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[1] State Communications Center is located at the Bibliographical Center for Research in Denver.

location in other libraries in the district or relayed to another point on the Network.

9. Colorado State Library (CSL) - the funding agency and principal agency responsible for administering the Network. CSL also functions as the reference center and switching center for requests from various state agencies and institutions.

10. Library Network user - any library that participates in the Network. The library might query the Network on behalf of a patron or for its own purposes, for instance, for bibliographic verification. The library either responds to the query directed to it, or, if unable to respond, relays the query to another point on the Network.

11. Patron Network user - any person who queries the Network for information or documents through a participating library Network user.

12. Request - a query submitted to some participating library, or "node," in the library Network.

13. Subject request - a query submitted to some node in the library Network for information about a particular subject. The request might result in a "fact reply" or a "document reply."

14. Author-title request - a query submitted to some node in the library Network for information about a particular author and title.

15. Response - information generated in reply to a request placed on the Network. The response may satisfy the patron's need, may be negative or inaccurate, or may lead to another request for more information or documentation.

16. Transaction - a transfer of information between two nodes of the library Network.

17. Switching center - a point at which a request or response is referred or relayed to another point on the Network.

18. Channel - a liaison for intercommunication, transmitting messages between linking nodes and levels of service. Some examples are teletype, telephone, mail, and courier.

19. Refer - to redirect an inquirer or inquiry to a source for information.

20. Relay - to pass a message along the Network from one station to another.

21. Originating library - the node at which a request is first placed on the Network.

22. On-the-Network - the status of a request from the point at which it leaves the originating library in the request path until some response has been returned to this point.

23. Link - any two nodes and the information transfer channel between them.

24. Library mix - any combination of types of libraries, such as a public library - school library mix or an academic - special mix.

25. Request path - the series of links activated by a request, until a response can be identified.

26. Response path - the series of links activated by the formation of a response to a query and terminated by the receipt of the response by the node from which the request originated.

27. Response time - the time interval from the initiation of the request at the originating node to the receipt of its response at that node.

28. Intended use - any intended use of the information being requested as expressed on the request form, eg., "recreation" or "term paper."

29. Remarks - any comments concerning the request that appeared on the request form, eg., concerning a time limitation or the amount of material needed.

30. Dependency coefficient - an individual library or node's dependency on the total Network, arrived at by comparing the relative amount of borrowing of a node to the total borrowing and lending transactions of the node.

31. Activity coefficient - an individual library or node's activity compared to the total activity of the Network, arrived at by comparing the relative activity of borrowing and lending at one node to the total borrowing and lending activity of the Network.

32. Node/Network relationship - an individual library or node's dependency coefficient compared to its activity coefficient, to show individual library differences and relative participation in the Network.

Methodology

Several instruments were used in the Statewide Reference Network evaluation. An analysis of requests and transactions was made to describe characteristics of messages placed on the Network. Interviews were administered to survey the opinions of system and state librarians, and questionnaires were used to survey the opinions of local-level librarians. A review of the literature was made to gather information about other state-wide reference systems. An attempt was made to conduct a cost study.

Request and Transaction Analysis

In an effort to monitor and to evaluate the amount and the kind of activity on the Network, a method was devised to analyze and tabulate the message characteristics and request and response path transactions.

Some preliminary observations of Network operations and procedures, as well as examination of existing SARC monthly statistical records and request documents, provided sufficient background for the development of a conceptual model of Network operations. In consultation with Miss Maryann Duggan and Dr. Richard Nance, a model was developed to represent the flow of a request through the Network hierarchy, from the time it enters the Network until a response is received by the originating library. This model, together with the existing SARC monthly statistical records and request documents, served as a framework for determining what types of evaluation could be made.

It was determined that several questions about the amount and kind of activity on the Network could be answered by a detailed analysis of the actual documents recording transactions. Since the proposal specifically called for an examination of the reference service activity (requests for information) and because of time and financial limitations, only a portion of the total Network activity as represented by SARC monthly records could be studied in detail. It was decided, therefore, that no author-title requests for documents would be examined in this study, although the value and the need for such examination were recognized. The present study, then, considers only those messages requesting information on a particular subject.

A subject request was defined as any query for information about a particular subject that could be answered by a document reply or a fact reply. After a review of the fact replies being placed on the Network, it was observed that they could be classified conveniently into four categories. These were: (1) requests for bibliographic verification information answered with fact replies, (2) requests for location information answered with fact replies, (3) requests asking for both bibliographic verification and location information answered with fact replies, and (4) subject requests not asking for bibliographic verification or location information answered with fact replies.

The questions to be answered by analysis of requests and the involved transactions were:

1. What _type of library_ is using the Service?
2. What _type of patron_ is using the Service?
3. What _type of request_ is being transmitted?
4. What _type of channel_ is being used in message transmission?
5. What geographical _location and level_ of service uses the Service?
6. What is the _intended use_ of the information being requested?

7. What remarks concerning the information requested are relayed?
8. What is the total response time and the time per link on the request and response paths?
9. How much and what kind of activity is on the Network?
10. What dependency does a level of service and/or geographical location have on the reference Service?
11. What does an input/output analysis of transactions show about the number filled, unfilled, and relayed by a particular node?

A Transaction Record Sheet (Figure 13, pp. 42-43) was devised to record the characteristics of requests and transactions to be collected from a sample of subject requests. Transaction Record Sheet Instructions (Figure 14, pp. 44-46) were developed to assure uniform recording of the data by Graduate Research Assistants. Efforts were made in the construction of the recording instrument and in the recording of request and transaction characteristics to make the device easily and accurately readable for key punch operation.

A pilot study was conducted to test both the adequacy of the Instructions for completing the Transaction Record Sheet and the computer program that was written for machine processing the data.

Upon completion of the pilot study, the selection of the sample of subject requests was begun.

FIGURE 13
TRANSACTION RECORD SHEET

Card No.	Column	Answer	Field	
1	3	______	1	Receiving Library: (1) P___ (2) D___ (3)GrW___ (4) Gj___ (5) C___ (6) Du___ (7) Nc___ (8)BIB___ (9)SWRC___ (X) CSL
	4-9	______	2	Date of Message: Day___ Month___ Year___
	10	______	3	Originating/Relaying SARC: (1) P___ (2) D___ (3)GrW___ (4) Gj___ (5) C___ (6) Du___ (7) Nc___ (8) CSL
	11-14	______	4	SARC TWX Transaction #______
	15	______	5	Type of Request: (1) Subject-Document Reply (2) Subject-Fact Reply (3) Bibliographic Verification (4) Location (5) 3+4
	16	______	6	Originating Library: (1) Local (2) SARC (3) State
	17-22	______	7	Originating Library Name Code: ______
	23	______	8	Type of Library: (1) Public (2) Community College (3) School (4) Academic (5) Special (6) Other
	Do not punch			Patron Name: ______________________________ Address: ______________________________ City: ______________________ Phone: ______________________________
	24-25	______	9	Patron Status: (01) agriculture (02) business/manufacturing (03) clerical worker (04) craftsman (05) housewife/clubwoman (06) laborer (07) managers/proprietors (08) mineral industry (09) operatives (10) professional (11) salesworker (12) senior citizen (13) services/non-professional (14) student/elementary (15) student/secondary (16) student/high education (17) other, specify:__________ (18) unknown
	26	______	10	Intended Use: (1) vocation (2) avocation (3) community service (4) school related (5) recreation (6) personal use (7) other use (8) for someone else (9) no response
	27	______	11	Remarks: Pertaining to: (1) time limitation (2) use (3) clarification of request (4) location (5) bibliographic verification (6) material limitations __________ (7) other, specify:____________ (8) none (9) stop at SARC level

FIGURE 13-Continued

Requesting Linkage

Card No.	Column	Field	Orig/Rel Library	Date Sent	Receiving Library	Date Rec'd	Date Sent	Channel	F/U	Mix
21	3-26	1								
	27-50	2								
	51-74	3								
22	3-6	4								
	27-50	5								
	51-74	6								

Responding Linkage

Card No.	Column	Field	Resp/Rel. Library	Date Rec'd	Receiving Library	Date Sent	Date Rec'd	Channel	F/U	Mix
31	3-26	1								
	27-50	2								
	51-74	3								
32	3-26	4								
	27-50	5								
	51-74	6								

FIGURE 14
Transaction Record Sheet Instructions

Card 1

1. Receiving Library: the final library to which the request is being sent. Circle the correct code (from the following list) and record the corresponding number in the answer blank at the left.

Code	Library	System
(1) P	Pueblo Regional Library	Arkansas Valley
(2) D	Denver Public Library	Central Colorado
(3) GrW	Weld County Library	High Plains
(4) Gj	Mesa County Library	Pathfinder
(5) C	Penrose Public Library	Plains and Peaks
(6) Du	Durango Public Library	Southwest
(7) Nc	Garfield County Library	Three Rivers
(8) Bib	Bibliographical Center	
(9) SWRC	Statewide Reference Center	
(X) CSL	Colorado State Library	

2. Date of Message: Use numerical system, e.g. October 5, 1970 is: 05-10-70 (day - month - year). Record in answer space.

3. Originating/Relaying SARC: If a SARC is either originating or relaying a message from the local level, circle the appropriate SARC and record the corresponding number in the answer space at the left.

4. SARC TWX Transaction #: Record in both blanks.

5. Type of Request: Numbers (1) and (2) are determined by whether a document or fact reply was sent as an answer. Number (5) is used for a request that combines (3) and (4).

6. Originating Library: Level of originating request is circled and entered on answer blank.

7. Originating Library Name Code: Enter Library of Congress telecommunications code from attached list of Colorado codes. Omit the Co.

8. Type of Library: Circle appropriate type. CSL is included in special (5).

   Record patron name, address and phone number when available.

9. Patron Status: Choose best category. Use list from U.S. Census Bureau (1960) for explanation of categories.

10. Intended Use: Record in both blanks.

11. Remarks: Record in both blanks.

Card 21 Requesting Linkage

1. a) Originating Library: Record Library of Congress code of library where request was first made or "X" when no code is available.

b) Date Sent: Date when originating/relaying library sent on request to next level.

c) Date Rec'd: Date request received by next level library.

d) Date Sent: Date sent to next level.

2. e) Receiving library from 1 now entered as relaying library.

3. Continue to highest level reached.

f) Channel - Place one of the following numbers in the blank:
1 - TWX
2 - ALA form
3 - letter, mail
4 - telephone call
5 - messenger (only between BIB and SWRC)
6 - courier (only within Central Colorado)
7 - personal exchange
8 - other
blank - unknown

4. F/U: Record whether request filled or unfilled, if known.

g) Mix - record what types of libraries were involved in the transaction.
01 Public Library - Public Library
02 Public Library - School
03 Public Library - Community College
04 Public Library - Academic
05 Public Library - Special
06 School - School
07 School - Community College
08 School - Academic
09 School - Special
10 Community College - Community College
11 Community College - Academic
12 Community College - Special
13 Academic - Academic
14 Academic - Special
15 Special - Special
16 Public Library - Bibliographical Center
17 School - Bibliographical Center
18 Community College - Bibliographical Center
19 Academic - Bibliographical Center
20 Special - Bibliographical Center

Card 31 Responding Linkage

Same procedure as requesting linkage.

The Sample

The selection of the sample was based on statistical record-keeping sheets originating from and maintained by the Colorado State Library. These SARC Reports (Appendix) were the only inventories kept which reflected Network activity at all levels of service. Unfortunately, the SARC reporting procedure was not implemented at the beginning of the Network operation. Moreover, in the data collected and reported monthly, there were omissions where SARCs either failed to report or reported incompletely.

Subject requests placed on the Statewide Reference Network were sampled over a ten-month period covering January, 1970 through October, 1970. For the convenience of the investigator the data collection period was divided into two parts, January through June and July through October. During the six-month period, approximately 3,204 requests were received by all SARCs from local-level libraries. It was decided to select a sample from this population of requests where the sample size would be determined with a maximum error of 95 per cent confidence interval of a given proportion no greater than .05. With the correction for a finite sample, the maximum sample size was determined to be 343 requests. In order to process the sampling in the shortest time possible, a systematic sampling procedure was used which required the deletion of every eighth request after the random selection of the initial request. This procedure yielded a sample size of 416.

It was estimated that a minimum of 2,200 requests were made in the second data collection period, July through October, 1970. Using the same requirements of the confidence interval for a proportion as were used in the first six months, it was determined that a minimum sample of 327 requests were needed in the last four months. Since the systematic sampling technique was to be used, the requirement of using every sixth request was adopted. This procedure yielded a sample of 433. After the sampling procedure was in progress, the total requests for the last four months had increased from the previous estimated value. No reduction in sample size was made since a larger sample size would only improve the accuracy of the confidence interval. The foregoing procedure would assure a confidence interval for a given proportion to be no greater than .05 with the provision that the population proportion would be included with a probability of at least 0.95.

The requests to be sampled for the first six months were obtained by visits to all the SARCs. All subject requests for that period were returned to the University of Denver, where the sample was drawn and the request and transaction characteristics were recorded. The following four-month period's subject requests were mailed from the SARCs to this investigator. The previous visit to each SARC and a later letter of instructions assured an understanding of the procedure. The sample from the requests in the four-month period was selected, and again the request and transaction characteristics were recorded. These characteristics were then key punched in preparation for machine processing the data.

The computer program used in the machine processing of the data is described below by Dr. Richard Nance.

The Evaluation Program

Following is a description of the evaluation program for the Colorado State Library Network. The program is actually written as a system consisting of three programs. The first program serves as an edit program to assure that all data input to the evaluation programs is properly formatted. This does not assure that the values are correct, but does protect against improper punches and incorrect field specification. The second program provides for the definition of several arrays used to gather statistics concerning the operation of the Network. Particular variables of interest treated in the second program are the different types of transactions witnessed in the Network; the type of library involved in the transaction; the level of the originating library; the patron's status involved in the transaction; the activity specified by remarks, that is any remarks concerning the request or the response; the channel used in the request and response path; the number of links in the request path; and the number of links in the response path. Arrays are also used to determine the mixes of libraries involved in transactions and whether the transactions resulted in a filled or unfilled request. Several arrays are maintained to determine time delays in the transactions involving either request or response paths. In addition, a total response time or total turn-around-time array is maintained. Only in terms of the types of transactions and the types of libraries is a monthly analysis used. However, the second program provides for updated monthly print-out onto tape of all array values. With this construction, the tape analysis program, Program 3, then orders and structures the information taken from the tape created by the second program, in order to produce information for the reports generated concerning the Network's operation. The third program serves as either a subroutine called by the second program, or as an independent program in itself.

The advantage of having Program 2 collect all the information and write it onto tape is that if further statistics or additional statistics were desired that could be defined in terms of the information gathered in Program 2, then the report generation program, Program 3, could be restructured or changed entirely to gather these statistics.

The program was written and debugged originally on a Univac 1108, final version of the program on a Burroughs B 5500. The total length of Program 2 and 3, 1,060 cards, core storage requirements on the Burroughs B 5500, 16,000 words.

Interviews

Personal interviews were conducted with twenty-three librarians serving in administrative capacities at the system or state level in the Network hierarchy. The purpose of the interviews was to survey the system-level and state-level librarians concerning Network use, satisfaction with the service and improvements needed. Information concerning the administration of the Network, its operations and costs was also requested. Local-level librarians were surveyed for the same purposes by means of a questionnaire, which is discussed later in this chapter.

At the system level, the system librarian, the system reference librarian and the SARC librarian were interviewed. The two Colorado State Library reference librarians were also interviewed, as they serve various state agencies and institutions. At the state level, where it was difficult to choose among the many who participate in the Network in some capacity, the three principal administrators were selected. They were the Colorado State Librarian, the Director of the Bibliographical Center for Research, and the Director of the Statewide Reference Center at the Denver Public Library.

This investigator administered each interview at the respondant's primary location, except in one case in which the interview was conducted at the University of Denver. Arrangements concerning the time and place of each interview were made in advance by letter or by telephone.

The interview questions (Figure 15, pp. 51-54) were predetermined and fixed-answer categories were chosen in advance. Some general instructions and the purpose of the interview were explained prior to the questioning. Each respondant was assured his answers would not be quoted without his permission. The same questions were asked of all librarians, not necessarily in any pre-arranged order. An attempt was made to present the questions objectively. There was no time limit on the reply, and each librarian was encouraged to give all his views concerning every question.

Each interview was approximately two hours in length. Answers to the questions were not recorded during the interview but were tabulated immediately after each interview was completed. Answers from all librarians were tabulated together; no distinction was made between state-level and system-level answers. Whenever a single librarian served in more than one capacity, either within the system or at the system and state levels, his responses were tabulated only once. The findings of the interviews are reported in Chapter III.

FIGURE 15

Interview

1. Is there a need for access to the Network on weekends and/or during evenings?

   Yes __________ No __________

2. Is the quality of service restricted because of the limitations the Network regulations and procedures impose?

   Yes __________ No __________

3. What service is provided most through the Statewide Reference Network?

   Interlibrary loan of author-title requests __________

   Answering requests for information __________

4. What type of library uses the Statewide Reference Network most?

   Public __________
   School __________
   Community college __________
   Special __________
   Academic __________

5. Are there some public, school, community college, special or academic libraries that never use the Network?

   Yes __________ No __________

6. Name one main reason why libraries that have access to the Network don't use it.

   a) Desire to remain autonomous __________
   b) Don't know how to use __________
   c) Don't know Service exists __________
   d) Don't know what it can do for them __________
   e) Not enough incentive for primarily lending libraries __________
   f) Too poor service __________

7. Are you satisfied with the current administration of the Statewide Reference Network?

   Completely satisfied __________ Partially satisfied __________ Not satisfied __________

   No response __________

FIGURE 15-Continued

8. Who should administer the Statewide Reference Network?

Bibliographical Center __________
Colorado State Library __________
Representative body from all types of participating libraries and from all levels of service __________
No response __________

9. Is there a need for more state-wide standardization in Network operations?

Yes __________ No __________ No response __________

10. What operation most needs standardization?

Procedures affecting all participants __________
Policies affecting all participants __________
Record-keeping __________
Selectivity policy __________
No response __________

11. Could some form of automation aid Network efficiency?

Yes __________ No __________ No response __________

12. What operation would be most effectively automated?

Location catalogs __________
Monitor on telephone __________
Radio connection to SARC from local system libraries __________
Record-keeping __________
No response __________

13. Should SARCs be able to communicate directly with each other by TWX or any other channel without going through the State Communications Center?

Yes __________ No __________

14. Are libraries throughout the State adequately informed about the services available to them through the Statewide Reference Network?

Yes __________ No __________

15. Are libraries throughout the State adequately informed about procedures for use of the network?

Yes __________ No __________

FIGURE 15-Continued

16. Do all libraries publicize and encourage the use of the Network to their patrons?

Yes ________ No ________

17. How do most patrons find out about the Network services?

Local librarian ________ In-library publicity ________
Out-of-library publicity ________

18. Has the State Library established or contracted for statements of written policies and procedures to be followed by Network users?

a) Policies		b) Procedures	
Yes	________	Yes	________
No	________	No	________
Some	________	Some	________
No response	________	No response	________

19. Have SARCs written policies and procedures for local libraries within their systems in addition to or in absence of state policy?

a) Policies		b) Procedures	
Yes	________	Yes	________
No	________	No	________
Some	________	Some	________
No response	________	No response	________

20. Who should establish policies for all participating Network libraries?

Bibliographical Center ________
Colorado State Library ________
Representative body of all types of participating libraries and from all levels of service ________
No response ________

21. Do SARCs have location files of holdings of libraries within their systems?

Yes ________ Some ________ No ________

22. Would state-wide and/or system location files aid in preventing those requests unnecessarily relayed to the state level?

Yes ________ No ________ No response ________

23. Is the current cost of the Network justified?

Yes ________ No ________ Partially ________
No response ________

FIGURE 15-Continued

24. If the answer to #23 is no or partially, what is the main reason for a lack of cost benefit?

Not enough activity on the Network __________
Not enough types of libraries using the Network __________
Poor service __________
Inefficiency of operations __________
No response __________

25. Should there be a revised method of funding that takes into account individual differences and needs and borrowing and lending activity in addition to a per capita and square miles formula?

Yes __________ No __________ No response __________

26. How is it determined which requests are "valid" ones to be placed on the Network?

Feedback experience of rejected requests __________
Workshops or memos information __________
Guess __________
No response __________

Questionnaire

A questionnaire (Figure 16, pp. 57-62) was mailed to reference librarians at the local level in Colorado public libraries, in school district centers, and in community college libraries. Special and academic librarians were excluded because only a few of their libraries are currently participating in the Statewide Reference Service.

The purpose of the questionnaire was to survey local-level reference librarians concerning their use of the Service, their satisfaction and their suggestions for Network improvement. Questions were also asked about the administration of the Network, its operational efficiency and the cost of the service.

A total of 385 questionnaires were mailed to public, school, and community college libraries as listed in the Directory of Colorado Libraries.[1] Ten community college reference librarians, 181 school district center contact agents, and 194 public library reference librarians were sent questionnaires. Each mailing included a cover letter explaining who was conducting the survey, the intent of the questionnaire, and procedures for its completion and return. Libraries were asked to identify themselves by type of library. It was explained that individual respondants' answers would remain anonymous. An addressed and stamped envelope was enclosed. Two follow-up postcards (Figure 17, p. 63) were sent at one-week intervals to all libraries asking them to return the questionnaire if they had not already done so, or to notify the investigator if they had not received or had mislaid the document.

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[1] Joan Harrigan, Directory of Colorado Libraries, 1970 (Denver, Colo.: Colorado Department of Education, 1970).

The response rate was 273 or 71 per cent of the total sent. A total of 167 or 61.3 per cent of the 273 returned were from public libraries. The return from public libraries was 86 per cent as compared to 71 per cent for all local libraries. Ninety-four or 34.4 per cent of the total returned were from school district centers, and 9 or .043 per cent of the total returned came from community colleges. Answers were tabulated by type of library and by total number and percentage responding to a particular item. Because of the greater percentage of public libraries responding, the data are reported by public libraries and all other libraries so as to show where there is a type of library bias in the findings.

The findings of the questionnaire are reported in Chapter III.

Cost Study

The proposal for the Statewide Reference Network study called for a cost analysis. Upon investigation, however, it was found that the necessary information was lacking or incomplete for such an analysis. The information which was found is presented without analysis in Chapter III.

UNIVERSITY OF DENVER
COLORADO SEMINARY

Graduate School of Librarianship
University Park, Denver, Colorado 80210

FIGURE 16

August 28, 1970

Dear Reference Librarian:

The Statewide Reference Network's activity and performance are being studied in an attempt to determine the current status of the network. The Colorado State Library has contracted the Center for Communication and Information Research of the Graduate School of Librarianship, University of Denver, to study the network's operations, growth patterns, and potential development. The findings and recommendations of the study will enable the State Library to formulate future plans for this network service to all citizens and all types of libraries of Colorado.

The enclosed questionnaire is one part of the study. The local library is the essential, originating link in the network. Its activities and needs are vital considerations in any evaluation of the network. This questionnaire should take no more than a half an hour to complete. We ask your cooperation in completing this questionnaire fully and returning it in the enclosed envelope by September 7.

The questionnaire results from all Colorado Libraries will be tabulated and interpreted collectively; therefore, an individual library's reply will remain anonymous.

We appreciate your time and consideration. If any questions arise concerning the questionnaire, please contact *Statewide Reference Research Study, Center for Communication and Information Research, Graduate School of Librarianship, University of Denver*. The results of this study will be available in January of 1971.

Sincerely,

James Meeks
James Meeks
Colorado State Librarian

Mary Sypert
Mary Sypert
Research Assistant

JM/MS:gs

FIGURE 16-Continued

LOCAL LIBRARIES QUESTIONNAIRE

Please check only one response in each question

1. If your library is a member of a public library system in Colorado, please indicate the appropriate system.

________ a. Arkansas Valley
________ b. Central Colorado
________ c. High Plains
________ d. Pathfinder
________ e. Plains and Peaks
________ f. Southwest
________ g. Three Rivers

2. If you do not answer #1, is your agency:

________ a. Non-system member
________ b. State agency, department, or institution
________ c. School library
________ d. Community college
________ e. Other: Specify:
____
____
____

3. Does your library/ libraries provide reference service to patrons who come to the library?

________ Yes ________ No

4. Does your library have a professional reference staff?

________ Yes ________ No

5. Does your library/libraries have a telephone(s)?

________ Yes ________ No

6. Does your library answer reference requests by telephone?

________ Yes ________ No

7. Does your library accept reference requests by mail?

________ Yes ________ No

8. If the request cannot be answered from the resources of your library, do you go to outside sources for help?

________ Yes ________ No

If the answer to #8 is no, please proceed to question #12.

9. If the answer to #8 is yes, how often do you use outside help?

________ a. always
________ b. often
________ c. sometimes
________ d. never

FIGURE 16-Continued

10. If you go to sources outside your library for help in answering reference requests, check the single most frequent source:

________ a. Other local libraries in your area
________ b. System Area Resource Center (SARC)
________ c. Colorado State Library
________ d. Non-library agency
________ e. Other, specify: ________________
____
____

11. What is the second most frequently used outside source?

________ a. Other local libraries in your area
________ b. System Area Resource Center (SARC)
________ c. Colorado State Library
________ d. Non-library agency
________ e. Other, specify: ________________
____
____

12. Is your library asked to assist in answering requests for information or inter-library loan from other libraries?

________ Yes ________ No

13. If the answer to #12 is yes, how many requests from other libraries do you receive?

________ a. Many
________ b. Some
________ c. Few or none

14. Have you ever used the Statewide Reference Network?

________ Yes ________ No

If the answer to #14 is no, stop here and return the questionnaire.

15. If the answer to #14 is yes, have you used the Statewide Reference Network for inter-library loan of author-title requests?

________ Yes ________ No

16. Have you used the Statewide Reference Network to answer reference questions?

________ Yes ________ No

17. Have you used the Statewide Reference Network in the last six months?

________ Yes ________ No

FIGURE 16-Continued

18. If you have used the network, how satisfied were you with the service you received from the network?

_________ a. Completely satisfied
_________ b. Partially satisfied
_________ c. Not satisfied

19. If b or c were checked, what is one reason for your dissatisfaction? Check the most important reason:

_________ a. Resources received too often inadequate or irrelevant
_________ b. Time required to receive resources too long
_________ c. Communication or relations with personnel at System Area Resource Center (SARC)
_________ d. Communication or relations with State Communications Center (at Bib Center)
_________ e. Communication or relations with the Statewide Reference Center (at Denver Public Library)

20. If b or c were checked in item #18, what is a second reason for your dissatisfaction?

_________ a. Resources received too often inadequate or irrelevant
_________ b. Time required to receive resources too long
_________ c. Communication or relations with personnel at System Area Resource Center (SARC)
_________ d. Communication or relations with State Communications Center(at Bib Center)
_________ e. Communication or relations with the Statewide Reference Center (at Denver Public Library)

21. Of those requests unfilled at your library, how many do you place on the network?

_________ a. All
_________ b. Some
_________ c. Few
_________ d. None

22. Have you ever had a request refused because of its validity?

_________ Yes _________ No

23. Should the Statewide Reference Network have criteria for requests acceptable on the network?

_________ Yes _________ No

24. In the following list of recommendations for network improvement, rate the importance of each as needed to increase network efficiency and effectiveness. Respond to each item. Check one category in each item:

FIGURE 16-Continued

Most needed	Needed	Not needed		
☐	☐	☐	1.	Automation of some operations.
☐	☐	☐	2.	State paid communications costs for an enlarged teletype facility.
☐	☐	☐	3.	State paid communications costs for telephone access.
☐	☐	☐	4.	More rapid access to reference and interlibrary loan services.
☐	☐	☐	5.	Standardization of message codes, operations procedures, and network policies at all levels of service.
☐	☐	☐	6.	Establishment of standards for the Colorado Statewide Reference Network.
☐	☐	☐	7.	Standardization of record keeping and statistics.
☐	☐	☐	8.	Capability for direct communication and interface with other libraries and other networks.
☐	☐	☐	9.	Fewer intermediate points to which a request must travel through the hierarchy.
☐	☐	☐	10.	System area location files.
☐	☐	☐	11.	Special collections' bibliographies.
☐	☐	☐	12.	Statewide union catalog.
☐	☐	☐	13.	Expanded interlibrary loan function.
☐	☐	☐	14.	Expanded reference service function.
☐	☐	☐	15.	Better Systems Area Resource Centers (SARC) administration.
☐	☐	☐	16.	Better Statewide Reference Center (SWRC at Denver Public Library) administration.
☐	☐	☐	17.	Better State Communications Center (Bibliographical Center administration.
☐	☐	☐	18.	Increased hours of access to State Communications Center (Bib Center).
☐	☐	☐	19.	Facilitate access to System Area Resource Center (SARC).
☐	☐	☐	20.	Funding to local libraries to develop resources.

FIGURE 16-Continued

Most needed	Needed	Not needed	
			21. Funding for development of media resources at all levels.
			22. Funding to System Area Resource Centers (SARC) to develop resources.
			23. Funding to Statewide Reference Center (SWRC at Denver Public Library) to develop resources.
			24. State network council composed of representatives of all levels of operation for fiscal and legal responsibility, planning, and policy formulation.
			25. Funding based on borrowing and lending activity.
			26. Network use by all types of libraries (public, school, special, academic, community college.)
			27. Better methods of selecting the optimism path of a request.
			28. Two-way conversational ability for voice transmission.
			29. Two-way communication ability for facsimile reproduction.
			30. Better defined role responsibility of all cooperating participants.
			31. More network publicity to patron users.
			32. Evaluation procedures for network assessment at regular intervals.
			33. Selective criteria for guidelines of what is to be placed on the network.
			34. Training programs to provide instruction to libraries, including instruction in policy and procedures.

Others and comments:

FIGURE 17

Reminder:

If you have not already done so, please complete the Statewide Reference Network Questionnaire sent to you September 1, 1970 from the Graduate School of Librarianship at the University of Denver. Return the questionnaire within the next three days. If you have any questions or did not receive a questionnaire please write or call immediately.

Thank you.

753-2557
Mary Sypert

Reproduction of follow-up postcard

CHAPTER III

Findings: Transaction Analysis

Total Activity of Sample

The total transaction activity from January, 1970 through October, 1970, based on a sample of 848 subject requests from all SARCs, CSL, BIB, and SWRC, is represented in Figure 18, p. 66. Also shown is the total transaction activity broken down into the request and response path transactions. Analysis of the sample data indicates that the greatest amounts of activity were during the months of March, August, September and October; while the least amounts of activity occurred during the months of February, April, May and June. There were more transactions in the request path for all months than in the response path.

Figure 19, p. 67, shows that of the total number of transactions (2116) that were handled, over 700 were handled by the Denver Public Library, 500-plus of these in its capacity as a SARC for the Central Colorado System, and more than 200 in its capacity as Statewide Reference Center. The Bibliographical Center for Research and the Colorado State Library each handled over 400 transactions, while the SARCs at Greeley, Colorado Springs, Durango and New Castle handled less than 100.

FIGURE 18

TOTAL TRANSACTION ACTIVITY ON THE REQUEST AND RESPONSE PATHS BY MONTH
FOR ALL SARCS, CSL, BIB, AND SWRC

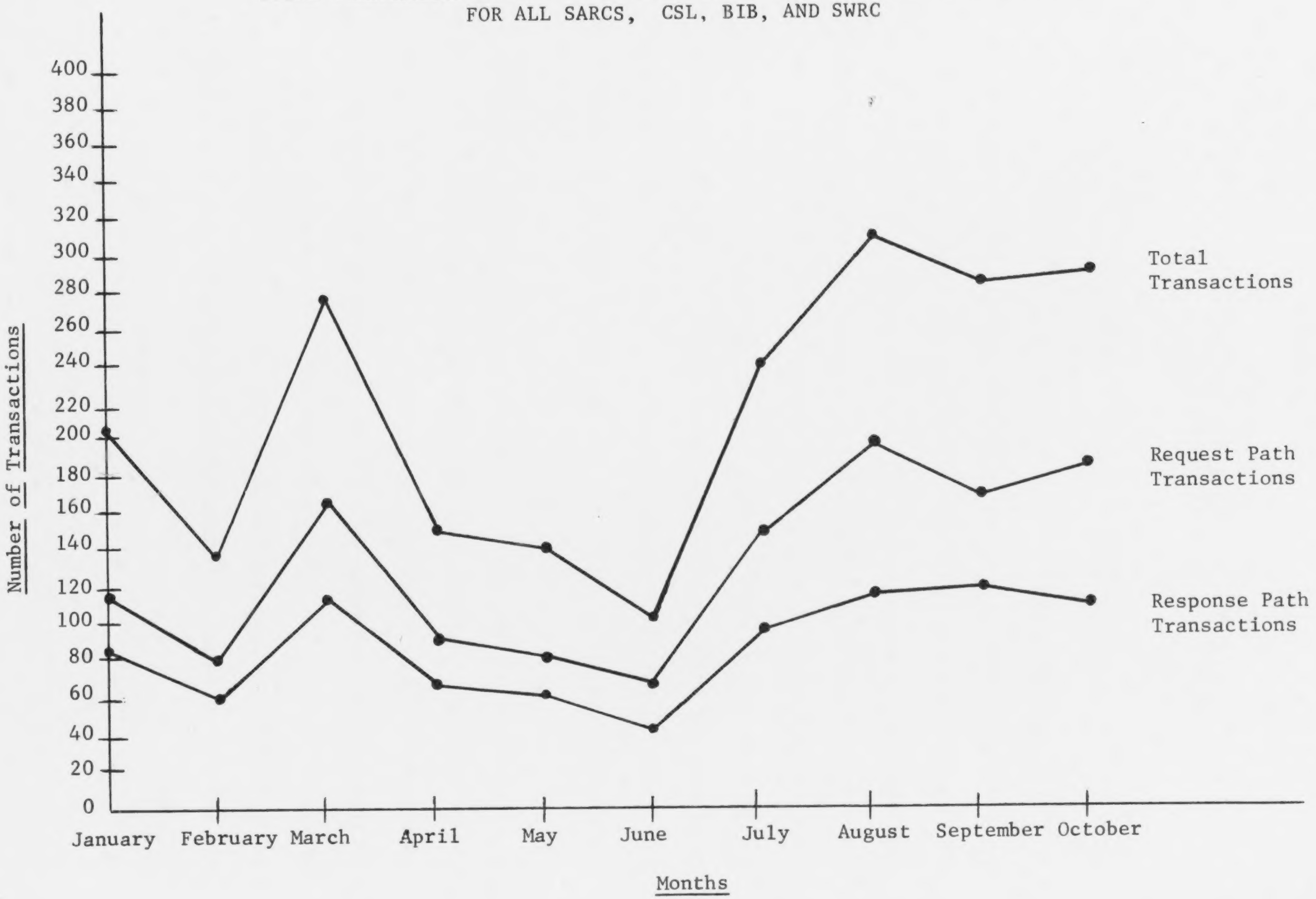
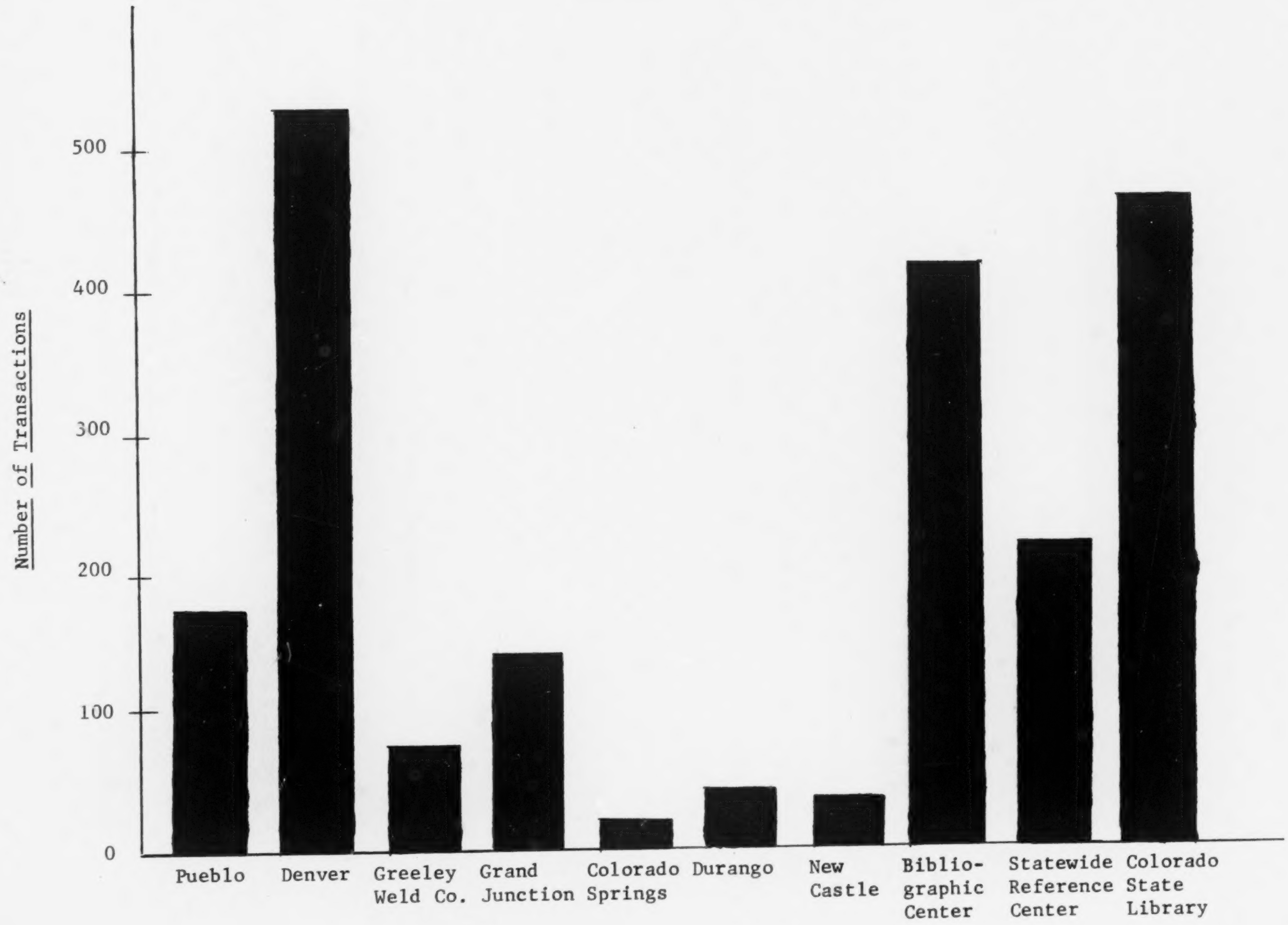


FIGURE 19

TOTAL NUMBER OF TRANSACTIONS FOR EACH SARC, CSL, BIB. AND SWRC



Activity by Type of Request*

Figure 20 , p. 69, illustrates the total number of transactions by type of request for all SARCs, CSL, BIB and SWRC. Of the subject request transactions placed on the Network, an overwhelming number were answered with document replies. Indeed, the number of all other types of requests was less than one-half the number of the subject-document reply type of request.

Analysis of Transactions in the Request Path

Table 3 , p. 70, shows that 914 or 71.7 per cent of all transactions in the request path involved requests of the subject-document type; 101 or 7.9 per cent of the subject-fact type; 49 or 3.8 per cent involved requests for bibliographical verification, 154 or 12.1 per cent for location, and 57 or 4.5 per cent for both bibliographical verification and location information. (The combination category of bibliographical verification and location represents those transactions involved in requests for both types of information, i.e., it is not repetitive of the separate categories with the same titles.)

Table 4 , p. 71, reports the total number and percentage of transactions in the request path handled by each SARC, CSL, BIB and SWRC. Out of a total of 1,275 request path transactions, the Denver Public Library, functioning as a SARC as well as the SWRC, received 406 or 31.9 per cent. The Bibliographical Center for Research and the Colorado State Library received 264 or 20.7 per cent and 273 or 21.4

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* It will be remembered that subject requests are classified according to how they are answered, by a document reply, by a fact reply, by location or bibliographic information.

FIGURE 20

TOTAL NUMBER OF TRANSACTIONS BY TYPE OF REQUEST FOR ALL SARCS, CSL, BIB, AND SWRC

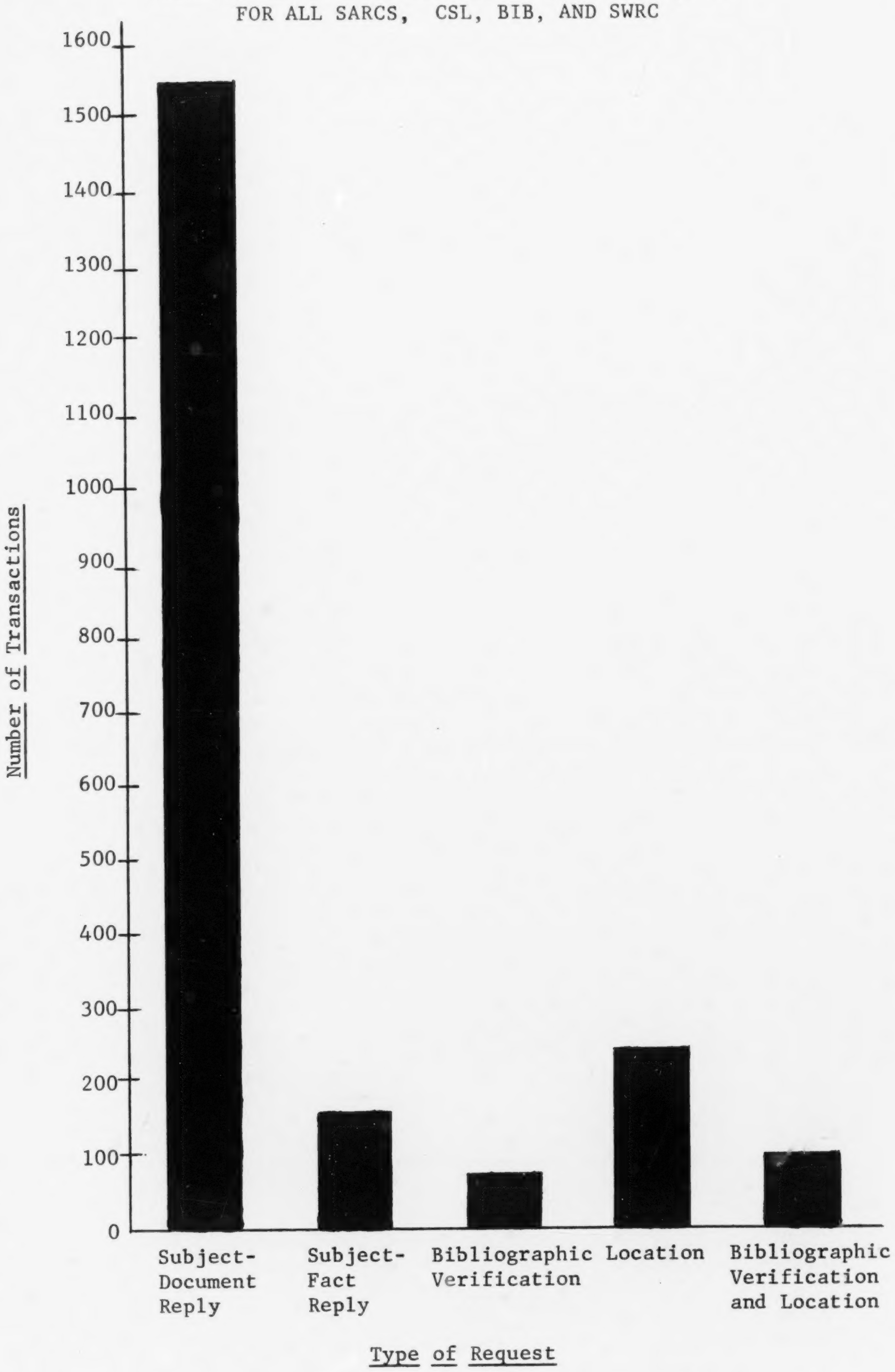

TABLE 3

TOTAL NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH FOR ALL SARCS, CSL, BIB, AND SWRC BY TYPE OF REQUEST FOR JANUARY 1970 THROUGH OCTOBER 1970

	Subject-Document Reply	Subject-Fact Reply	Bibliographic Verification	Location	Bibliographic Verification and Location	TOTALS
January	89 76.1%	6 5.1%	0 0.0%	15 12.8%	7 6.0%	117
February	56 70.9%	0 0.0%	6 7.6%	6 7.6%	11 13.9%	79
March	106 64.6%	12 7.3%	6 3.7%	32 19.5%	8 4.9%	164
April	70 80.5%	2 2.3%	0 0.0%	10 11.5%	5 5.7%	87
May	55 69.6%	3 3.8%	7 8.9%	3 3.8%	11 13.9%	79
June	37 61.7%	4 6.7%	8 13.3%	9 15.0%	2 3.3%	60
July	94 64.8%	13 9.0%	2 1.4%	30 20.7%	6 4.1%	145
August	135 68.9%	25 12.8%	10 5.1%	23 11.7%	3 1.5%	196
September	137 82.5%	9 5.4%	8 4.8%	10 6.0%	2 1.2%	166
October	135 74.2%	27 14.8%	2 1.1%	16 8.8%	2 1.1%	182
Totals and Percentages	914 71.7%	101 7.9%	49 3.8%	154 12.1%	57 4.5%	1275

TABLE 4

TOTAL NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH FOR ALL TYPES OF REQUESTS RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR JANUARY 1970 THROUGH OCTOBER 1970

	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphic Center	Statewide Reference Center	Colorado State Library	TOTALS
January	11	28	1	13	1	4	2	23	8	26	117
February	11	22	2	7	0	0	2	23	6	6	79
March	15	41	2	6	1	5	2	38	13	41	164
April	5	16	0	6	0	2	2	16	6	34	87
May	7	20	1	5	0	2	2	19	6	17	79
June	5	16	1	2	1	2	1	16	5	11	60
July	6	51	5	21	2	2	1	26	7	24	145
August	12	37	10	15	1	3	5	42	17	54	196
September	15	47	14	17	1	4	8	23	13	24	166
October	14	20	14	6	8	14	5	38	27	36	182
Totals and Percentages	101	298	50	98	15	38	30	264	108	273	1275
	7.9%	23.4%	3.9%	7.7%	1.2%	3.0%	2.3%	20.7%	8.5%	21.4%	

per cent respectively. SARCs, other than the one at the Denver Public Library, received as many as 101 or 7.9 per cent of the transactions at Pueblo or as few as 15 or 1.2 per cent at Colorado Springs.

An analysis by month, January through October, 1970, of the number and percentage of transactions in the request path, by type of request , is presented in Tables 5 through 14 on pages 73-82 . For each month, over 60 per cent of the transactions involved requests answered by subject-document replies. For the months of April and September over 80 per cent of the transactions were of this type.

There were few transactions in the path of requests requiring subject-fact replies. In February, out of a possible 79 transactions in the request path for that month, there were no transactions of this type. Only in the months of August and October were the percentages of subject-fact reply type transactions as high as 12.8 per cent and 14.8 per cent respectively.

Analysis of Transactions in the Response Path

The response path transaction analysis by type of request shows the number of transactions received by a particular node either as a relayer of documents or information or as the final destination in the response path. The number and percentage of transactions in the response path by type of request received by SARCs, CSL, BIB, and SWRC for the months of January through October of 1970 are presented in Tables 15 through 24 on pages 84-93 . Since the response path transaction analysis is based on the same group of requests as the request path transaction analysis, it is understandable that a

TABLE 5

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR JANUARY

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	10 90.9%	22 78.6%	1 100.0%	13 100.0%	0 0.0%	4 100.0%	2 100.0%	7 30.4%	7 87.5%	23 88.5%	89 76.1%
Subject-Fact Reply	1 9.1%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	2 8.7%	1 12.5%	1 3.8%	6 5.1%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Location	0 0.0%	5 17.9%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 39.1%	0 0.0%	1 3.8%	15 12.8%
Bibliographic Verification and Location	0 0.0%	1 3.6%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 21.7%	0 0.0%	1 3.8%	7 6.0%
Request Path Totals	11	28	1	13	1	4	2	23	8	26	117

TABLE 6

NUMBER AND PER CENTAGE OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR FEBRUARY

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	11 100.0%	17 77.3%	2 100.0%	7 100.0%	0 0.0%	0 0.0%	2 100.0%	6 26.1%	6 100.0%	5 83.3%	56 70.9%
Subject-Fact Reply	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Bibliographic Verification	0 0.0%	3 13.6%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 13.0%	0 0.0%	0 0.0%	6 7.6%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 21.7%	0 0.0%	1 16.7%	6 7.6%
Bibliographic Verification and Location	0 0.0%	2 9.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 39.1%	0 0.0%	0 0.0%	11 13.9%
Request Path Totals	11	22	2	7	0	0	2	23	6	6	79

TABLE 7

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR MARCH

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	13 86.7%	28 68.3%	2 100.0%	5 83.3%	0 0.0%	4 80.0%	2 100.0%	11 28.9%	11 84.6%	30 73.2%	106 64.6%
Subject-Fact Reply	1 6.7%	2 4.9%	0 0.0%	0 0.0%	1 100.0%	1 20.0%	0 0.0%	3 7.9%	2 15.4%	2 4.9%	12 7.3%
Bibliographic Verification	0 0.0%	3 7.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 7.9%	0 0.0%	0 0.0%	6 3.7%
Location	1 6.7%	5 12.2%	0 0.0%	1 16.7%	0 0.0%	0 0.0%	0 0.0%	16 42.1%	0 0.0%	9 22.0%	32 19.5%
Bibliographic Verification and Location	0 0.0%	3 7.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 13.2%	0 0.0%	0 0.0%	8 4.9%
Request Path Totals	15	41	2	6	1	5	2	38	13	41	164

TABLE 8

NUMBER AND PER CENTAGE OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR APRIL

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	5 100.0%	13 81.3%	0 0.0%	5 83.3%	0 0.0%	2 100.0%	2 100.0%	7 43.8%	6 100.0%	30 88.2%	70 80.5%
Subject-Fact Reply	0 0.0%	1 6.3%	0 0.0%	1 16.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 2.3%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Location	0 0.0%	1 6.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 31.3%	0 0.0%	4 11.8%	10 11.5%
Bibliographic Verification and Location	0 0.0%	1 6.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 25.0%	0 0.0%	0 0.0%	5 5.7%
Request Path Totals	5	16	0	6	0	2	2	16	6	34	87

TABLE 9

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR MAY

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	7 100.0%	16 80.0%	1 100.0%	5 100.0%	0 0.0%	2 100.0%	2 100.0%	6 31.6%	6 100.0%	10 58.8%	55 69.6%
Subject-Fact Reply	0 0.0%	2 10.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 5.9%	3 3.8%
Bibliographic Verification	0 0.0%	2 10.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 10.5%	0 0.0%	3 17.6%	7 8.9%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 10.5%	0 0.0%	1 5.9%	3 3.8%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 47.4%	0 0.0%	2 11.8%	11 13.9%
Request Path Totals	7	20	1	5	0	2	2	19	6	17	79

TABLE 10

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR JUNE

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	5 100.0%	8 50.0%	1 100.0%	2 100.0%	0 0.0%	2 100.0%	1 100.0%	5 31.3%	5 100.0%	8 72.7%	37 61.7%
Subject-Fact Reply	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	1 6.3%	0 0.0%	2 18.2%	4 6.7%
Bibliographic Verification	0 0.0%	4 25.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 25.0%	0 0.0%	0 0.0%	8 13.3%
Location	0 0.0%	3 18.8%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 31.3%	0 0.0%	1 9.1%	9 15.0%
Bibliographic Verification and Location	0 0.0%	1 6.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 6.3%	0 0.0%	0 0.0%	2 3.3%
Request Path Totals	5	16	1	2	1	2	1	16	5	11	60

TABLE 11

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR JULY

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	6 100.0%	38 74.5%	5 100.0%	20 95.2%	2 100.0%	2 100.0%	1 100.0%	7 26.9%	7 100.0%	6 25.0%	94 64.8%
Subject-Fact Reply	0 0.0%	1 2.0%	0 0.0%	1 4.8%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	11 45.8%	13 9.0%
Bibliographic Verification	0 0.0%	1 2.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 3.8%	0 0.0%	0 0.0%	2 1.4%
Location	0 0.0%	10 19.6%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	15 57.7%	0 0.0%	5 20.8%	30 20.7%
Bibliographic Verification and Location	0 0.0%	1 2.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 11.5%	0 0.0%	2 8.3%	6 4.1%
Request Path Totals	6	51	5	21	2	2	1	26	7	24	145

TABLE 12

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF REQUEST RECEIVED BY SARC'S, CSL, BIB, AND SWRC FOR AUGUST

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	12 100.0%	26 70.3%	10 100.0%	15 100.0%	1 100.0%	3 100.0%	5 100.0%	19 45.2%	17 100.0%	27 50.0%	135 68.9%
Subject-Fact Reply	0 0.0%	1 2.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 2.4%	0 0.0%	23 42.6%	25 12.8%
Bibliographic Verification	0 0.0%	5 13.5%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 11.9%	0 0.0%	0 0.0%	10 5.1%
Location	0 0.0%	5 13.5%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	14 33.3%	0 0.0%	4 7.4%	23 11.7%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 7.1%	0 0.0%	0 0.0%	3 1.5%
Request Path Totals	12	37	10	15	1	3	5	42	17	54	196

TABLE 13

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR SEPTEMBER

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	15 100.0%	39 83.0%	13 92.9%	17 100.0%	1 100.0%	4 100.0%	8 100.0%	13 56.5%	13 100.0%	14 58.3%	137 82.5%
Subject-Fact Reply	0 0.0%	1 2.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	8 33.3%	9 5.4%
Bibliographic Verification	0 0.0%	4 8.5%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 17.4%	0 0.0%	0 0.0%	8 4.8%
Location	0 0.0%	2 4.3%	1 7.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 21.7%	0 0.0%	2 8.3%	10 6.0%
Bibliographic Verification and Location	0 0.0%	1 2.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 4.3%	0 0.0%	0 0.0%	2 1.2%
Request Path Totals	15	47	14	17	1	4	8	23	13	24	166

TABLE 14

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF REQUEST RECEIVED BY SARCS , CSL, BIB, AND SWRC FOR OCTOBER

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	14 100.0%	15 75.0%	13 92.9%	4 66.7%	6 75.0%	11 78.6%	5 100.0%	25 65.8%	25 92.6%	17 47.2%	135 74.2%
Subject-Fact Reply	0 0.0%	2 10.0%	1 7.1%	2 33.3%	0 0.0%	3 21.4%	0 0.0%	2 5.3%	2 7.4%	15 41.7%	27 14.8%
Bibliographic Verification	0 0.0%	1 5.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 2.6%	0 0.0%	0 0.0%	2 1.1%
Location	0 0.0%	1 5.0%	0 0.0%	0 0.0%	2 25.0%	0 0.0%	0 0.0%	9 23.7%	0 0.0%	4 11.1%	16 8.8%
Bibliographic Verification and Location	0 0.0%	1 5.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 2.6%	0 0.0%	0 0.0%	2 1.1%
Request Path Totals	14	20	14	6	8	14	5	38	27	36	182

majority of transactions in the response path are those involving subject requests answered by document replies.

The difference that can be noted when comparing transactions in the request and response paths is in the node or library that received an answer once some response to a request had been initiated. For example, considering only request paths, the BIB Center as State Communications Center handled 106 transactions for requests of the subject-document reply type for the study period. In the response path, however, the BIB Center handled no transactions of that type, simply because the BIB Center is not a response path switching center for documents. However, some response path transaction activity is shown for the BIB Center in its capacity as a relayer of information or as the initiator of a response to a query for which the Center could supply an answer.

It can be seen from the tables that the heaviest amounts of response path activity, for all months and for all types of requests, are attributable to the Denver Public Library as a SARC, the Bibliographical Center for Research and the Colorado State Library.

TABLE 15

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR JANUARY

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	9 90.0%	22 100.0%	0 0.0%	8 100.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	6 85.7%	23 100.0%	69 80.2%
Subject-Fact Reply	1 10.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 6.7%	1 14.3%	0 0.0%	3 3.5%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 60.0%	0 0.0%	0 0.0%	9 10.5%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 33.3%	0 0.0%	0 0.0%	5 5.8%
Response Path Totals	10	22	0	8	0	1	0	15	7	23	86

TABLE 16

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR FEBRUARY

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	9 100.0%	16 100.0%	0 0.0%	4 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	6 100.0%	5 100.0%	40 70.2%
Subject-Fact Reply	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 17.6%	0 0.0%	0 0.0%	3 5.3%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 29.4%	0 0.0%	0 0.0%	5 8.8%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 52.9%	0 0.0%	0 0.0%	9 15.8%
Response Path Totals	9	16	0	4	0	0	0	17	6	5	57

TABLE 17

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR MARCH

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	9 100.0%	27 96.4%	0 0.0%	3 100.0%	0 0.0%	1 50.0%	0 0.0%	0 0.0%	11 84.6%	30 93.8%	81 72.3%
Subject-Fact Reply	0 0.0%	1 3.6%	0 0.0%	0 0.0%	0 0.0%	1 50.0%	0 0.0%	1 4.0%	2 15.4%	2 6.3%	7 6.3%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 12.0%	0 0.0%	0 0.0%	3 2.7%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	16 64.0%	0 0.0%	0 0.0%	16 14.3%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 20.0%	0 0.0%	0 0.0%	5 4.5%
Response Path Totals	9	28	0	3	0	2	0	25	13	32	112

TABLE 18

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR APRIL

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	3 100.0%	13 92.9%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	1 100.0%	0 0.0%	6 100.0%	30 100.0%	54 84.4%
Subject-Fact Reply	0 0.0%	1 7.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 1.6%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 55.6%	0 0.0%	0 0.0%	5 7.8%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 44.4%	0 0.0%	0 0.0%	4 6.3%
Response Path Totals	3	14	0	1	0	0	1	9	6	30	64

TABLE 19

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR MAY

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	4 100.0%	16 88.9%	0 0.0%	1 100.0%	0 0.0%	1 100.0%	1 100.0%	0 0.0%	6 100.0%	10 71.4%	39 67.2%
Subject-Fact Reply	0 0.0%	2 11.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 7.1%	3 5.2%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 15.4%	0 0.0%	3 21.4%	5 8.6%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 15.4%	0 0.0%	0 0.0%	2 3.4%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 69.2%	0 0.0%	0 0.0%	9 15.5%
Response Path Totals	4	18	0	1	0	1	1	13	6	14	58

TABLE 20

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR JUNE

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	3 100.0%	8 100.0%	1 100.0%	1 100.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	5 83.3%	8 88.9%	27 69.2%
Subject-Fact Reply	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 16.7%	1 11.1%	2 5.1%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 40.0%	0 0.0%	0 0.0%	4 10.3%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 50.0%	0 0.0%	0 0.0%	5 12.8%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 10.0%	0 0.0%	0 0.0%	1 2.6%
Response Path Totals	3	8	1	1	0	1	0	10	6	9	39

TABLE 21

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR JULY

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	4 100.0%	38 97.4%	3 100.0%	8 88.9%	2 100.0%	0 0.0%	1 100.0%	0 0.0%	7 100.0%	3 37.5%	66 71.7%
Subject-Fact Reply	0 0.0%	1 2.6%	0 0.0%	1 11.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 62.5%	7 7.6%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 5.3%	0 0.0%	0 0.0%	1 1.1%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	15 78.9%	0 0.0%	0 0.0%	15 16.3%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 15.8%	0 0.0%	0 0.0%	3 3.3%
Response Path Totals	4	39	3	9	2	0	1	19	7	8	92

TABLE 22

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR AUGUST

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	8 100.0%	25 96.2%	6 100.0%	4 100.0%	1 100.0%	1 100.0%	1 100.0%	0 0.0%	17 100.0%	17 63.0%	80 71.4%
Subject-Fact Reply	0 0.0%	1 3.8%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 33.3%	10 8.9%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 23.8%	0 0.0%	0 0.0%	5 4.5%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	13 61.9%	0 0.0%	1 3.7%	14 12.5%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 14.3%	0 0.0%	0 0.0%	3 2.7%
Response Path Totals	8	26	6	4	1	1	1	21	17	27	112

TABLE 23

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR SEPTEMBER

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	13 100.0%	39 97.5%	11 91.7%	9 100.0%	1 100.0%	1 100.0%	3 100.0%	0 0.0%	13 100.0%	9 69.2%	99 86.1%
Subject-Fact Reply	0 0.0%	1 2.5%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 30.8%	5 4.3%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 40.0%	0 0.0%	0 0.0%	4 3.5%
Location	0 0.0%	0 0.0%	1 8.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 50.0%	0 0.0%	0 0.0%	6 5.2%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 10.0%	0 0.0%	0 0.0%	1 0.9%
Response Path Totals	13	40	12	9	1	1	3	10	13	13	115

TABLE 24

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH BY TYPE OF REQUEST RECEIVED BY SARCS, CSL, BIB, AND SWRC FOR OCTOBER

TYPE OF REQUEST	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Subject-Document Reply	9 100.0%	15 88.2%	9 90.0%	2 66.7%	4 100.0%	0 0.0%	2 100.0%	0 0.0%	25 92.6%	13 56.5%	79 74.5%
Subject-Fact Reply	0 0.0%	2 11.8%	1 10.0%	1 33.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 7.4%	10 43.5%	16 15.1%
Bibliographic Verification	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 9.1%	0 0.0%	0 0.0%	1 0.9%
Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 81.8%	0 0.0%	0 0.0%	9 8.5%
Bibliographic Verification and Location	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 9.1%	0 0.0%	0 0.0%	1 0.9%
Response Path Totals	9	17	10	3	4	0	2	11	27	23	106

Activity by Type of Library

The total number of transactions in the request path by type of library for all SARCs, CSL, BIB and SWRC, as presented in Figure 21 , p. 95, indicates that public library transactions on the Network far outnumbered those of other types of libraries. Table 25 , p. 96 shows that they accounted for 954 or 74.8 per cent of the total, special libraries coming second with 252 or 19.8 per cent.

In each month of the study period, public libraries accounted for more than 60 per cent of all transactions. Special libraries ranked next for each month except February, when school libraries, responsible for 16.5 per cent of the total, ranked second.

Tables 26 through 35 , pp. 97-106, report the request path analysis, by type of library and for each month, January through October, 1970, of transactions received by SARCs, CSL, BIB and SWRC. For the total period, the SARCs at Pueblo, Denver and Grand Junction received the most transactions from all types of libraries within their systems. Within each SARC, requests came overwhelmingly from the public libraries.

No response path analysis by type of library was made.

FIGURE 21

NUMBER OF TRANSACTIONS IN THE REQUEST PATH BY TYPE OF LIBRARY FOR ALL SARCS, CSL, BIB, AND SWRC

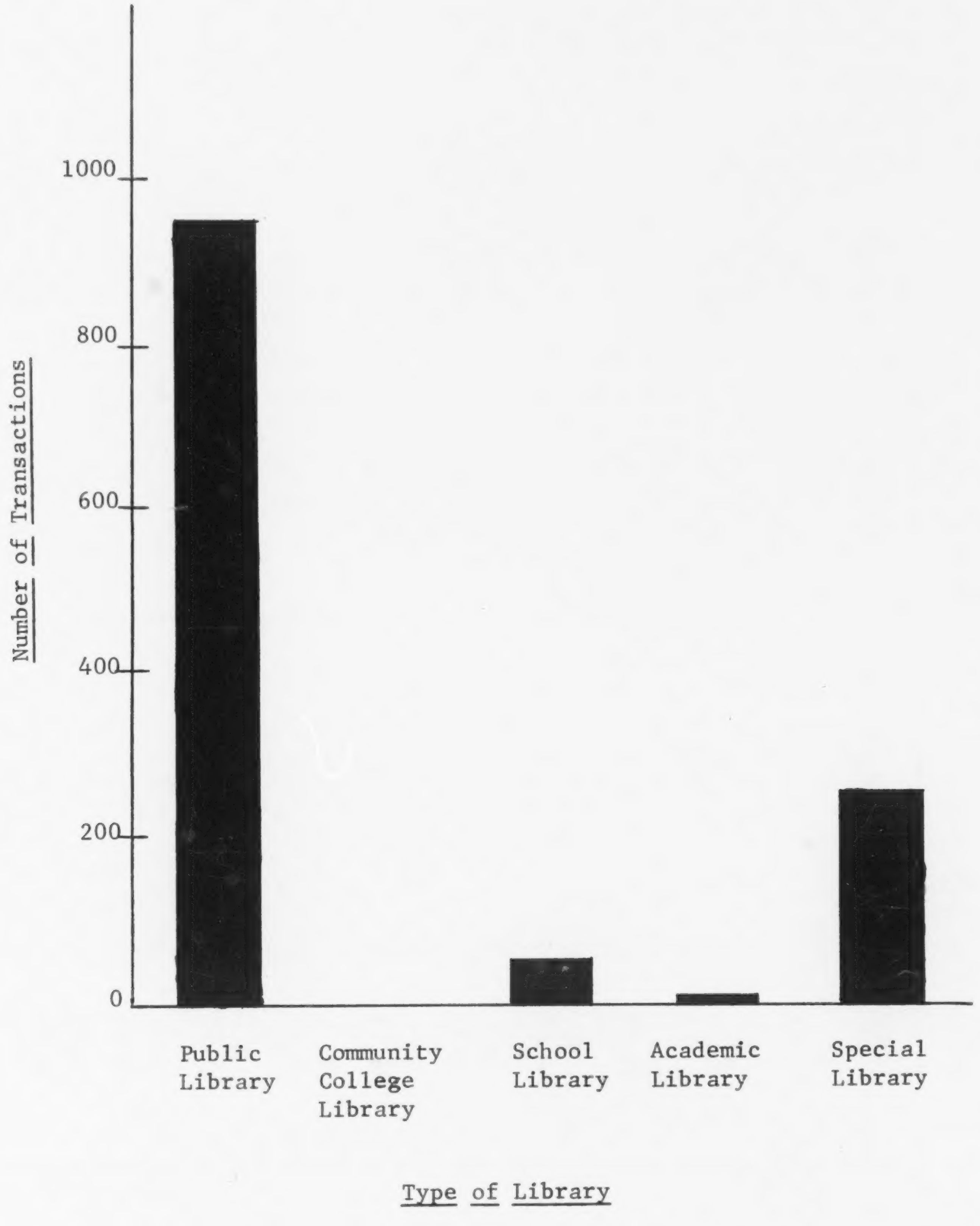

TABLE 25

TOTAL NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH FOR ALL SARCS, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR JANUARY 1970 THROUGH OCTOBER 1970

	Public	Community College	School	Academic	Special	TOTAL
January	91 77.8%	0 0.0%	8 6.8%	0 0.0%	18 15.4%	117
February	56 70.9%	0 0.0%	13 16.5%	3 3.8%	7 8.9%	79
March	124 75.6%	0 0.0%	10 6.1%	0 0.0%	30 18.3%	164
April	56 64.4%	0 0.0%	9 10.3%	1 1.1%	21 24.1%	87
May	59 74.7%	0 0.0%	2 2.5%	0 0.0%	18 22.8%	79
June	49 81.7%	0 0.0%	1 1.7%	0 0.0%	10 16.7%	60
July	112 77.2%	0 0.0%	0 0.0%	1 0.7%	32 22.1%	145
August	133 67.9%	0 0.0%	3 1.5%	3 1.5%	57 29.1%	196
September	137 82.5%	0 0.0%	3 1.8%	1 0.6%	25 15.1%	166
October	137 75.3%	0 0.0%	9 4.9%	2 1.1%	34 18.7%	182
Total	954 74.8%	0 0.0%	58 4.5%	11 0.9%	252 19.8%	1275

TABLE 26

NUMBER AND PER CENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARCS, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR JANUARY

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Public	8 72.7%	28 100.0%	1 100.0%	13 100.0%	1 100.0%	2 50.0%	2 100.0%	19 82.6%	7 87.5%	10 38.5%	91 77.8%
Community College	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
School	3 27.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 50.0%	0 0.0%	1 4.3%	1 12.5%	1 3.8%	8 6.8%
Academic	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Special	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 13.0%	0 0.0%	15 57.7%	18 15.4%
Total	11	28	1	13	1	4	2	23	8	26	117

TABLE 27

NUMBER AND PER CENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED
BY SARCS, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR FEBRUARY

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Public	8 72.7%	21 95.5%	1 50.0%	7 100.0%	0 0.0%	0 0.0%	1 50.0%	13 56.5%	4 66.7%	1 16.7%	56 70.9%
Community College	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
School	3 27.3%	0 0.0%	1 50.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	8 34.8%	1 16.7%	0 0.0%	13 16.5%
Academic	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 50.0%	1 4.3%	1 16.7%	0 0.0%	3 3.8%
Special	0 0.0%	1 4.5%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 4.3%	0 0.0%	5 83.3%	7 8.9%
Total	11	22	2	7	0	0	2	23	6	6	79

TABLE 28

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARCS, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR MARCH

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Public	10 66.7%	40 97.6%	2 100.0%	6 100.0%	1 100.0%	4 80.0%	2 100.0%	27 71.1%	11 84.6%	21 51.2%	124 75.6%
Community College	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
School	5 33.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 20.0%	0 0.0%	2 5.3%	2 15.4%	0 0.0%	10 6.1%
Academic	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Special	0 0.0%	1 2.4%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 23.7%	0 0.0%	20 48.8%	30 18.3%
Total	15	41	2	6	1	5	2	38	13	41	164

TABLE 29

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARCS, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR APRIL

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Public	4 80.0%	16 100.0%	0 0.0%	6 100.0%	0 0.0%	1 50.0%	2 100.0%	9 56.3%	5 83.3%	13 38.2%	56 64.4%
Community College	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
School	1 20.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 50.0%	0 0.0%	2 12.5%	1 16.7%	4 11.8%	9 10.3%
Academic	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 2.9%	1 1.1%
Special	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 31.3%	0 0.0%	16 47.1%	21 24.1%
Total	5	16	0	6	0	2	2	16	6	34	87

TABLE 30

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARCS, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR MAY

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Public	6 85.7%	20 100.0%	1 100.0%	5 100.0%	0 0.0%	2 100.0%	2 100.0%	15 78.9%	6 100.0%	2 11.8%	59 74.7%
Community College	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
School	1 14.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 5.3%	0 0.0%	0 0.0%	2 2.5%
Academic	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Special	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 15.8%	0 0.0%	15 88.2%	18 22.8%
Total	7	20	1	5	0	2	2	19	6	17	79

TABLE 31

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARC S, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR JUNE

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Public	5 100.0%	16 100.0%	1 100.0%	2 100.0%	1 100.0%	1 50.0%	1 100.0%	15 93.8%	5 100.0%	2 18.2%	49 81.7%
Community College	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
School	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 9.1%	1 1.7%
Academic	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Special	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 50.0%	0 0.0%	1 6.3%	0 0.0%	8 72.7%	10 16.7%
Total	5	16	1	2	1	2	1	16	5	11	60

TABLE 32

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARCS, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR JULY

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Public	6 100.0%	49 96.1%	5 100.0%	21 100.0%	2 100.0%	2 100.0%	1 100.0%	18 69.2%	7 100.0%	1 4.2%	112 77.2%
Community College	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
School	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Academic	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 4.2%	1 0.7%
Special	0 0.0%	2 3.9%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	8 30.8%	0 0.0%	22 91.7%	32 22.1%
Total	6	51	5	21	2	2	1	26	7	24	145

TABLE 33

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARCS, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR AUGUST

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Public	12 100.0%	35 94.6%	10 100.0%	15 100.0%	1 100.0%	1 33.3%	5 100.0%	35 83.3%	17 100.0%	2 3.7%	133 67.9%
Community College	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
School	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 33.3%	0 0.0%	0 0.0%	0 0.0%	2 3.7%	3 1.5%
Academic	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 33.3%	0 0.0%	1 2.4%	0 0.0%	1 1.9%	3 1.5%
Special	0 0.0%	2 5.4%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	6 14.3%	0 0.0%	49 90.7%	57 29.1%
Total	12	37	10	15	1	3	5	42	17	54	196

TABLE 34

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARCS, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR SEPTEMBER

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Public	15 100.0%	47 100.0%	14 100.0%	17 100.0%	1 100.0%	3 75.0%	7 87.5%	20 87.0%	12 92.3%	1 4.2%	137 82.5%
Community College	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
School	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 12.5%	1 4.3%	1 7.7%	0 0.0%	3 1.8%
Academic	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 4.2%	1 0.6%
Special	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 25.0%	0 0.0%	2 8.7%	0 0.0%	22 91.7%	25 15.1%
Total	15	47	14	17	1	4	8	23	13	24	166

TABLE 35

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARCS, CSL, BIB, AND SWRC BY TYPE OF LIBRARY FOR OCTOBER

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Public	12 85.7%	20 100.0%	11 78.6%	6 100.0%	8 100.0%	13 92.9%	5 100.0%	34 89.5%	27 100.0%	1 2.8%	137 75.3%
Community College	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
School	2 14.3%	0 0.0%	3 21.4%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 11.1%	9 4.9%
Academic	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 7.1%	0 0.0%	0 0.0%	0 0.0%	1 2.8%	2 1.1%
Special	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 10.5%	0 0.0%	30 83.3%	34 18.7%
Total	14	20	14	6	8	14	5	38	27	36	182

Mixes of Library Types

An analysis was made of the frequency with which library types were linked or "mixed" on response and request paths; for instance, the frequency with which public libraries relayed requests to other public libraries, to school libraries, special libraries, etc.

The frequencies of mixes of library types representing transactions on the request and response paths are recorded in Tables 36 and 37 on pp.108-111 . The request path library mixes were 42.5 per cent public library - public library mixes. The public library - Bib Center was the second most frequent type, with 31.1 per cent of the total. Within all SARCs, the mixes were mainly of the public library - public library type.

In the response path 470 or 55.9 per cent of all mixes were also of the public library - public library type.

TABLE 36

FREQUENCY OF MIXES OF LIBRARY TYPES* IN TRANSACTIONS ON THE REQUEST PATH BY SARCS, CSL, BIB, AND SWRC

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
p.l. - p.l.	70	226	40	50	8	15	26	0	0	0	435 42.5%
p.l. - sch.	16	0	4	0	0	5	1	0	0	0	26 2.5%
p.l. - cc.	0	0	0	0	0	0	0	0	0	0	0 0.0%
p.l. - aca.	0	0	0	0	0	0	1	0	0	0	1 0.1%
p.l. - sp.	0	5	0	0	0	0	0	0	0	54	59 5.8%
sch. - sch.	0	0	0	0	0	0	0	0	0	0	0 0.0%
sch. - cc.	0	0	0	0	0	0	0	0	0	0	0 0.0%
sch. - aca.	0	0	0	0	0	0	0	0	0	0	0 0.0%
sch. - sp.	0	0	0	0	0	0	0	0	0	12	12 1.2%
cc. - cc.	0	0	0	0	0	0	0	0	0	0	0 0.0%
cc. - aca.	0	0	0	0	0	0	0	0	0	0	0 0.0%

cc. - sp.	0	0	0	0	0	0	0	0	0	0	0 0.0%
aca. - aca.	0	0	0	0	0	0	0	0	0	0	0 0.0%
aca. - sp.	0	0	0	0	0	0	0	0	0	7**	7 0.7%
sp. - sp.	0	1	0	0	0	0	0	0	0	109	110 10.7%
p.l. - Bib.	0	1	0	0	0	0	0	209	108	0	318 31.1%
sch. - Bib.	0	0	0	0	0	0	0	9	0	0	9 0.9%
cc. - Bib.	0	0	0	0	0	0	0	0	0	0	0 0.0%
aca. - Bib.	0	0	0	0	0	0	0	1	0	0	1 0.1%
sp. - Bib.	0	0	0	0	0	0	0	42	0	3	45 4.4%
Total	86	233	44	50	8	20	28	261	108	185	1023

* Key: p.l. = public library, sch. = school, cc. = community college, aca. = academic, sp. = special, Bib. = Bibliographic Center

** Due to the computer's inability to differentiate between Du (Durango) and DU (University of Denver), two of this number were originally tabulated under Durango. Assuming an error, the researchers retabulated the two under CSL.

TABLE 37

FREQUENCY OF MIXES OF LIBRARY TYPES* IN TRANSACTIONS ON THE RESPONSE PATH BY SARCS, CSL, BIB, AND SWRC

TYPE OF LIBRARY	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
p.l. - p.l.	58	224	28	43	8	2	9	0	98	0	470 55.9%
p.l. - sch.	14	0	3	0	0	3	0	0	6	0	26 3.1%
p.l. - cc.	0	0	0	0	0	0	0	0	0	0	0 0.0%
p.l. - aca.	0	0	0	0	0	0	0	0	1	0	1 0.1%
p.l. - sp.	0	3	0	0	0	0	0	0	0	54	57 6.8%
sch. - sch.	0	0	0	0	0	0	0	0	0	0	0 0.0%
sch. - cc.	0	0	0	0	0	0	0	0	0	0	0 0.0%
sch. - aca.	0	0	0	0	0	0	0	0	0	0	0 0.0%
sch. - sp.	0	0	0	0	0	0	0	0	0	12	12 1.4%
cc. - cc.	0	0	0	0	0	0	0	0	0	0	0 0.0%
cc. - aca.	0	0	0	0	0	0	0	0	0	0	0 0.0%

cc. - sp.	0	0	0	0	0	0	0	0	0	0	0 0.0%
aca. - aca.	0	0	0	0	0	0	0	0	0	0	0 0.0%
aca. - sp.	0	0	0	0	0	0	0	0	0	7*	7 0.8%
sp. - sp.	0	1	0	0	0	0	0	0	0	109	110 13.1%
p.l. - Bib.	0	0	1	0	0	0	0	99	3	0	103 12.2%
sch. - Bib.	0	0	0	0	0	0	0	9	0	0	9 1.1%
cc. - Bib.	0	0	0	0	0	0	0	0	0	0	0 0.0%
aca. - Bib.	0	0	0	0	0	0	0	1	0	0	1 0.1%
sp. - Bib.	0	0	0	0	0	0	0	41	0	4	45 5.4%
Total	72	228	32	43	8	5	9	150	108	186	841

* Key: p.l. = public library, sch. = school, cc. = community college, aca. - academic, sp. = special, Bib.= Bibliographical Center

** Due to the computer's inability to differentiate between Du (Durango) and DU (University of Denver), two of this number were originally tabulated under Durango. Assuming an error, the researchers retabulated the two under CSL.

Activity by Patron Status

An analysis of transactions in the request path by the type of patron using the Network is tabulated in Table 38 , pp. 114 and 115. Unfortunately, over 50 per cent of the transactions lacked any information about the type of patron requesting service.

In the remainder of the transactions, the most frequently recorded user was the professional (with 274 or 21.5 per cent of the 1,275 total request path transactions). The secondary-school student was the second-most-frequent user. Of those patrons about which some status could be identified, no laborers, mineral industry workers or operatives used the service.

Activity by Channel Used

The number and percentage of transactions in both request and response paths are tabulated according to the channel used (TWX, mail, courier service, etc.) in Tables 39 and 40 on pp. 116-118 .

Inasmuch as many local-to-SARC-level linkages lacked information about the type of channel used, channel figures are tabulated only for information transfer between the SARC and State levels.

The channel most frequently used in request path transactions was the telephone, with the TWX ranking second. The telephone was used 59.1 and 78.9 per cent of the time respectively in the request path by the Denver SARC and the Colorado State Library. However, SARCs having teletype communications facilities -- Pueblo, Greeley, Grand Junction, Colorado Springs, Durango and New Castle -- relied almost entirely on the TWX for transmitting requests.

It is not surprising, since most requests were answered by documents, that the channels most used in the response path were first the mail, and secondly, the courier service, used only by the Central Colorado System.

TABLE 38

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH FOR SARCS, CSL, BIB, AND SWRC BY PATRON STATUS

PATRON STATUS	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Agriculture	1 1.0%	0 0.0%	1 2.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 0.2%
Business/ Manufacturing	1 1.0%	1 0.3%	0 0.0%	2 2.0%	0 0.0%	2 5.3%	0 0.0%	4 1.5%	4 3.7%	3 1.1%	17 1.3%
Clerical Worker	1 1.0%	1 0.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 1.1%	5 0.4%
Craftsman	3 3.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 0.8%	2 1.9%	0 0.0%	7 0.5%
Housewife/ Clubwoman	9 8.9%	1 0.3%	11 22.0%	2 2.0%	1 6.7%	1 2.6%	0 0.0%	6 2.3%	6 5.6%	1 0.4%	38 3.0%
Laborer	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Managers/ Proprietors	1 1.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 3.3%	2 0.8%	2 1.9%	0 0.0%	6 0.5%
Mineral Industry	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%

Operatives	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Professional	9 8.9%	16 5.4%	9 18.0%	8 8.2%	1 6.7%	13 34.2%	2 6.7%	72 27.3%	20 18.5%	124 45.4%	274 21.5%
Salesworker	2 2.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 0.2%
Senior Citizen	0 0.0%	1 0.3%	0 0.0%	1 1.0%	0 0.0%	0 0.0%	1 3.3%	2 0.8%	1 0.9%	0 0.0%	6 0.5%
Services/Non-Professional	1 1.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 0.4%	1 0.9%	0 0.0%	3 0.2%
Student/ Elementary	2 2.0%	1 0.3%	3 6.0%	1 1.0%	2 13.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	9 0.7%
Student/ Secondary	47 46.5%	6 2.0%	16 32.0%	5 5.1%	1 6.7%	9 23.7%	5 16.7%	23 8.7%	23 21.3%	2 0.7%	137 10.7%
Student/ Higher Education	7 6.9%	3 1.0%	6 12.0%	5 5.1%	0 0.0%	1 2.6%	1 3.3%	11 4.2%	9 8.3%	0 0.0%	43 3.4%
Other	0 0.0%	1 0.3%	0 0.0%	1 1.0%	0 0.0%	1 2.6%	0 0.0%	1 0.4%	1 0.9%	33 12.1%	38 3.0%
Unknown	17 16.8%	267 89.6%	4 8.0%	73 74.5%	10 66.7%	11 28.9%	20 66.7%	140 53.0%	39 36.1%	107 39.2%	688 54.0%
Total	101	298	50	98	15	38	30	264	108	273	1275

TABLE 39

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH FOR SARCS, CSL, BIB, AND SWRC BY CHANNEL USED

CHANNEL	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
TWX	26 92.9%	0 0.0%	19 100.0%	12 85.7%	7 100.0%	29 93.5%	20 95.2%	1 0.9%	0 0.0%	0 0.0%	114 26.0%
ALA Form	0 0.0%	2 1.8%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	6 6.3%	8 1.8%
Letter, Mail	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 2.1%	2 0.5%
Telephone Call	1 3.6%	65 59.1%	0 0.0%	0 0.0%	0 0.0%	1 3.2%	1 4.8%	3 2.7%	0 0.0%	75 78.9%	146 33.3%
Messenger (only between BIB and SWRC)	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	104 92.0%	0 0.0%	0 0.0%	104 23.8%
Courier (only within Central Colorado)	0 0.0%	41* 37.3%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 1.1%	42 9.6%

Personal Exchange	0 0.0%	2 1.8%	0 0.0%	1 7.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	7 7.4%	10 2.3%
Other	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Unknown	1 3.6%	0 0.0%	0 0.0%	1 7.1%	0 0.0%	1 3.2%	0 0.0%	5 4.4%	0 0.0%	4 4.2%	12 2.7%
Totals**	28	110	19	14	7	31	21	113	0	95	438

* Due to the computer's inability to differentiate between Gj (Grand Junction) and GJ (Golden, Jefferson County) this figure originally was tabulated under Grand Junction. Because courier service is available only in the Central Colorado system, the researchers assumed GJ was being indicated and re-entered this figure under the Denver tabulations.

** Numbers vary from total transaction request path figures because the channel was tabulated only by sending libraries from the SARC level and up.

TABLE 40

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE RESPONSE PATH FOR SARCS, CSL, BIB, AND SWRC BY CHANNEL USED

CHANNEL	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
TWX	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 2.0%	1 0.9%	0 0.0%	4 0.5%
ALA Form	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 0.7%	1 0.9%	0 0.0%	2 0.2%
Letter, Mail	70 97.2%	1 0.4%	30 93.8%	37 86.0%	8 100.0%	5 71.4%	9 100.0%	7 4.7%	81 75.0%	114 62.0%	362 43.0%
Telephone Call	0 0.0%	2 0.9%	1 3.1%	1 2.3%	0 0.0%	0 0.0%	0 0.0%	133 88.7%	0 0.0%	34 18.5%	171 20.3%
Messenger (only between BIB and SWRC)	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Courier (only within Central Colorado)	0 0.0%	224 98.2%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 0.7%	0 0.0%	0 0.0%	225 26.8%
Personal Exchange	0 0.0%	1 0.4%	0 0.0%	1 2.3%	0 0.0%	1 14.3%	0 0.0%	2 1.3%	0 0.0%	30 16.3%	35 4.2%
Other	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Unknown	2 2.8%	0 0.0%	1 3.1%	4 9.3%	0 0.0%	1 14.3%	0 0.0%	3 2.0%	25 23.1%	6 3.3%	42 5.0%
Totals	72	228	32	43	8	7	9	150	108	184	841

Activity by Intended User

Table 41 , p. 120, tabulates the number of transactions in the request path received by SARCs, CSL, BIB and SWRC according to the intended use of the requested material. Again, information is lacking. For 730 or 57.3 per cent of the transactions in the request path nothing was known about intended use. The remaining 42.7 per cent, those transactions where intended use information was recorded, were broken down into the following categories: 248 or 19.4 per cent intended to use the information for their vocations, 130 or 10.2 per cent intended to use it in some school-related project, 78 or 6.1 per cent requested service for their personal use, and avocation, recreation, community service, "for someone else ," and "other" accounted for the remaining 89 or 7 per cent.

TABLE 41

NUMBER OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARCS, CSL, BIB, AND SWRC BY INTENDED USE

INTENDED USE	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Bibliographical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Vocation	11	19	9	7	3	8	4	62	19	106	248 19.4%
Avocation	7	0	4	0	0	4	2	13	13	0	43 3.4%
Community Service	4	0	3	2	0	0	0	1	1	1	12 0.9%
School-Related	46	7	15	5	0	4	3	22	20	8	130 10.2%
Recreation	3	0	1	2	0	2	2	6	6	2	24 1.9%
Personal Use	6	4	10	7	4	3	4	20	18	2	78 6.1%
Other Use	0	0	1	0	0	0	1	1	1	1	5 0.4%
For Someone Else	1	0	0	0	0	0	0	1	1	2	5 0.4%
No Response	23	268	7	75	8	17	14	138	29	151	730 57.3%
Totals	101	298	50	98	15	38	30	264	108	273	1275

Activity by Type of Remark

The number and percentage of transactions in the request path that included some remarks concerning a particular request are tabulated in Table 42, p. 122. Of those, it can be seen that 248 or 19.5 per cent of the total specified a time limitation for answering the request, 130 or 10.2 per cent gave instructions about the location of the material (e.g., locate within the system if possible, but do not send to the state level), and 78 or 6.1 per cent stipulated a materials limitation (e.g., patron can only use materials written on eighth grade level). The greatest number of transactions bearing remarks was received by the Denver Public Library in both its capacity as a SARC and as a SWRC.

Activity by Originating Level

Table 43, p. 123 shows requests classified by each type of request and by the level of service (local, SARC, state) from which requests originated.

Of all requests of all types, 632 or 74.5 per cent originated at the local level. Over 90 per cent of these local requests were of the subject-document reply type. For requests originating at the SARC level, location information was almost as frequently asked for as documents satisfying a subject query.

In the study period covered, the Colorado State Library made 89 requests or 10.5 per cent of the total. There were no requests from the Colorado State Library for only bibliographical verification information. Nearly a third of their requests were of the subject-fact reply type, while SARC and local levels request totals amounted to less than 5 per cent of this type.

TABLE 42

NUMBER AND PERCENTAGE OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY SARCS, CSL, BIB, AND SWRC BY TYPE OF REMARK

REMARK PERTAINING TO:	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS AND PERCENTAGES
Time Limitation	11	19	9	7	3	8	4	62	19	106	248 19.5%
Use	7	0	4	0	0	4	2	13	13	0	43 3.4%
Clarification of Request	4	0	3	2	0	0	0	1	1	1	12 0.9%
Location	46	7	15	5	0	4	3	22	20	8	130 10.2%
Bibliographic Verification	3	0	1	2	0	2	2	6	6	2	24 1.9%
Materials Limitation	6	4	10	7	4	3	4	20	18	2	78 6.1%
Any Other Response or Nc Response	24	268	8	75	8	17	15	140	31	154	740 58.0%
Total	101	298	50	98	15	38	30	264	108	273	1275

TABLE 43

TOTAL NUMBER AND PER CENTAGE OF REQUESTS BY ORIGINATING LEVEL AND BY TYPE OF REQUEST

TYPE OF REQUEST	Local Level	SARC Level	Colorado State Library	TOTALS
Subject-Document Reply	570 90.2%	44 34.6%	22 24.7%	636
Subject-Fact Reply	25 4.0%	6 4.7%	29 32.6%	60
Bibliographic Verification	3 0.5%	23 18.1%	0 0.0%	26
Location	12 1.9%	41 32.3%	32 36.0%	85
Bibliographic Verification and Location	22 3.5%	13 10.2%	6 6.7%	41
Totals and Percentages	632 74.5%	127 15.0%	89 10.5%	848

Response Time

The average response times* by month for all SARCs, CSL, BIB, and SWRC are reported in Figure 22, p. 125. The months of January with an average response time of 6.24 days, February with 8.00 days, and March with 6.94 days are the months which had the highest average response times; while the months of August and October with average response times of 3.00 and 2.00 days, respectively, were the months for which the lowest response times were recorded.

Figure 23, p. 126, shows the frequency distribution of response times, by number of days, taken over the ten-month study period.

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*It will be recalled that response time for a request was defined as the number of elapsed days from the time the request was initiated to the time a reply to the request was received by the initiating library.

FIGURE 22

AVERAGE RESPONSE TIME BY MONTH FOR ALL SARCS, CSL, BIB, AND SWRC

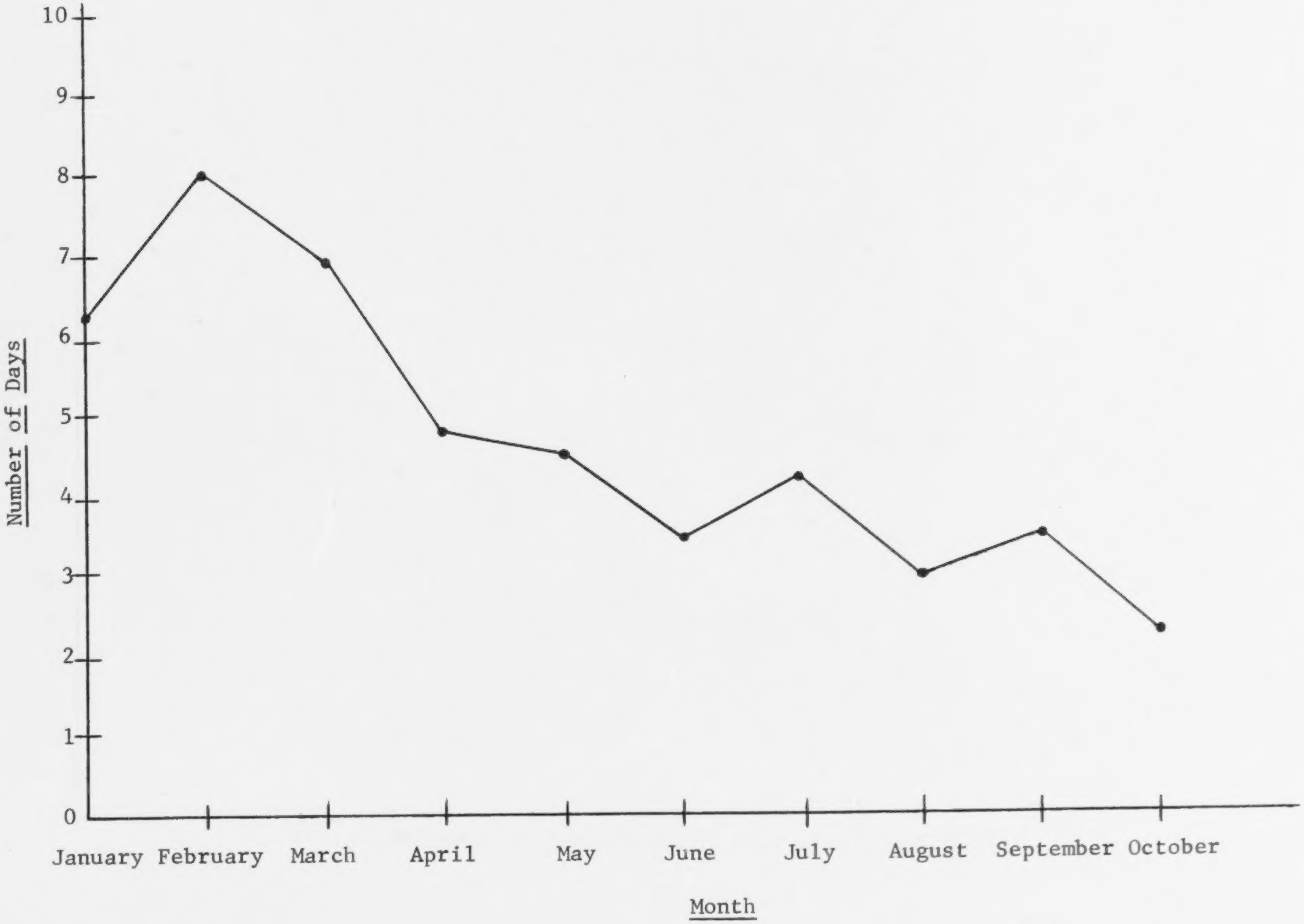
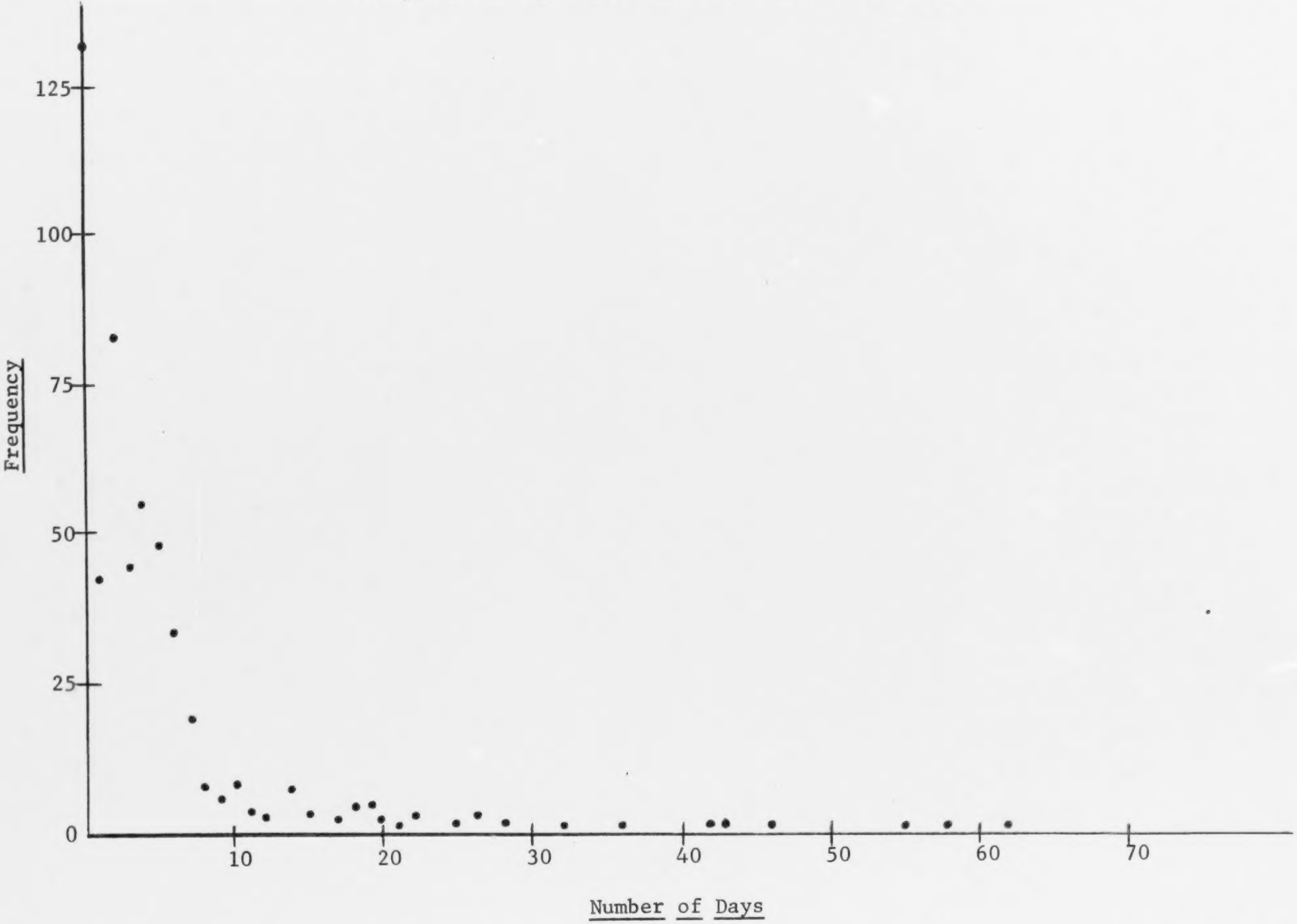


FIGURE 23

FREQUENCY OF THE NUMBER OF DAYS FOR RESPONSE TIME



Linkage Analysis

Table 44, p.128 reports the frequency of number of links required for the transmission of information in request and response paths. In the request path, there were 728 requests requiring one link, 53 requests requiring two links, and 67 requests requiring three links before reaching the point at which responses to the requests were initiated. In the response path, except for 4 responses which required two links, only one link per response was needed.

Figure 24, p.129 reports the number of days per link on the request path. Five hundred and nineteen of the linkages in the request path were completed within the same day as they were begun, while 73 required an additional one to four days to complete.

Figure 25, p.130 reports the number of days per link in the response path for all SARCs, CSL, BIB, and SWRC. Here the frequency ranged from 0 to 58 days per link. One hundred and twenty-six linkages were completed within the same day as they were begun, 114 required between one and fourteen additional days, and 26 required more than fourteen days, one linkage taking as long as fifty-eight days.

Figures 26 and 27, pp.131 and132 show the same information for the particular case of the BIB Center. All 94 links in the request path were made within the same day. This was true also for 69 links in the response path. The remaining 52 response path links required additional time, up to fifty-eight days, to be completed.

Figure 28, p.133 reports the time per link in the response path for SWRC. Of the 18 links tabulated, 7 required between one and three days, 6 required between four and seven days, 4 required between eight and fourteen days, and 1 required twenty days to complete.

TABLE 44

FREQUENCY OF NUMBER OF LINKS IN REQUEST AND RESPONSE PATHS

NUMBER OF LINKS	1	2	3	4	5	6	7	8	9	TOTAL
Frequency of Number of Links in Request Path	728	53	67	0	0	0	0	0	1	849
Frequency of Number of Links in Response Path	843	4	0	0	0	0	0	0	0	847
Total	1571	57	67	0	0	0	0	0	1	1696

FIGURE 24

NUMBER OF DAYS PER LINK IN REQUEST PATH FOR
ALL SARCS, CSL, BIB, AND SWRC

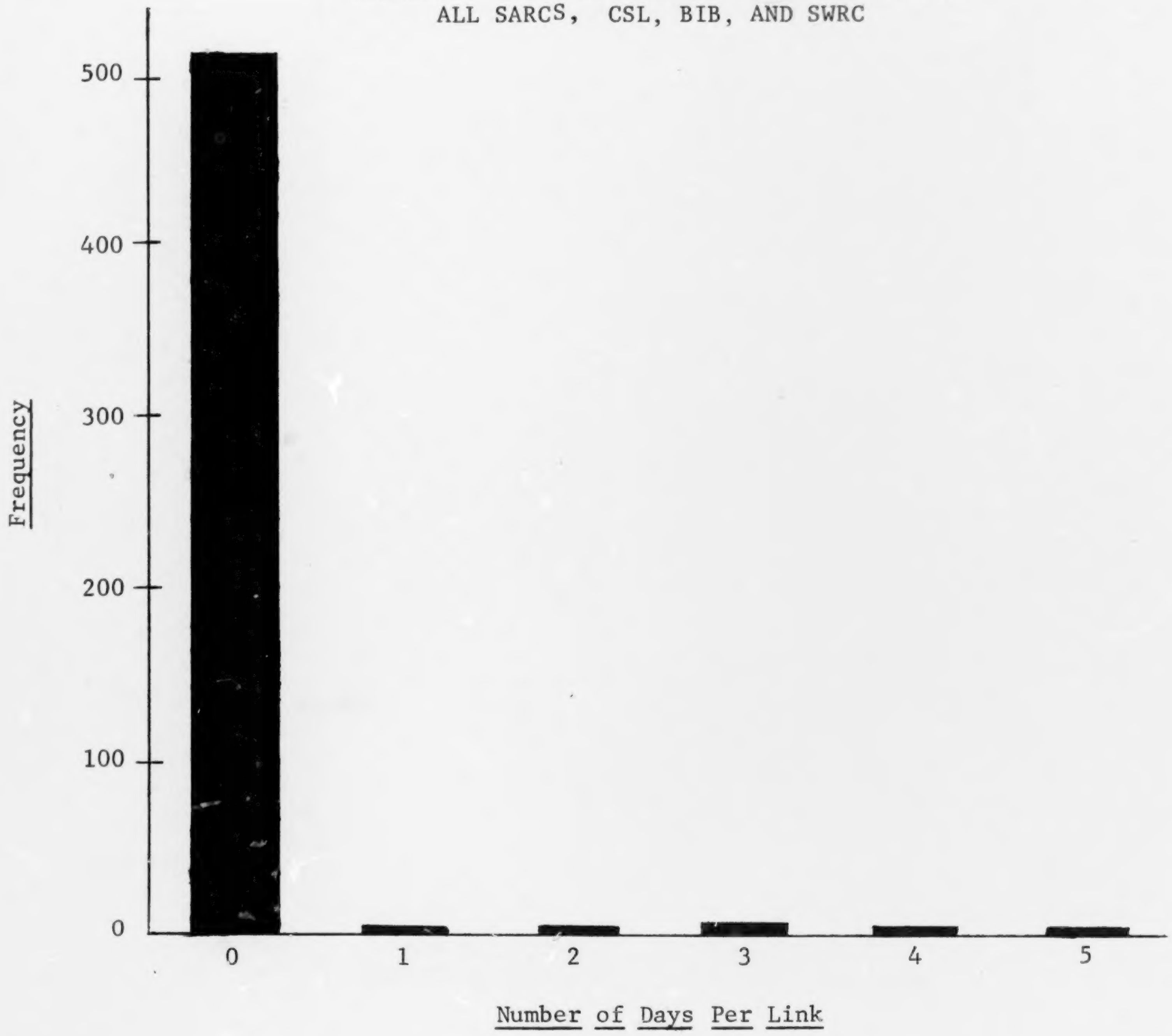


FIGURE 25

NUMBER OF DAYS PER LINK IN RESPONSE PATH
FOR ALL SARCS, CSL, BIB, AND SWRC

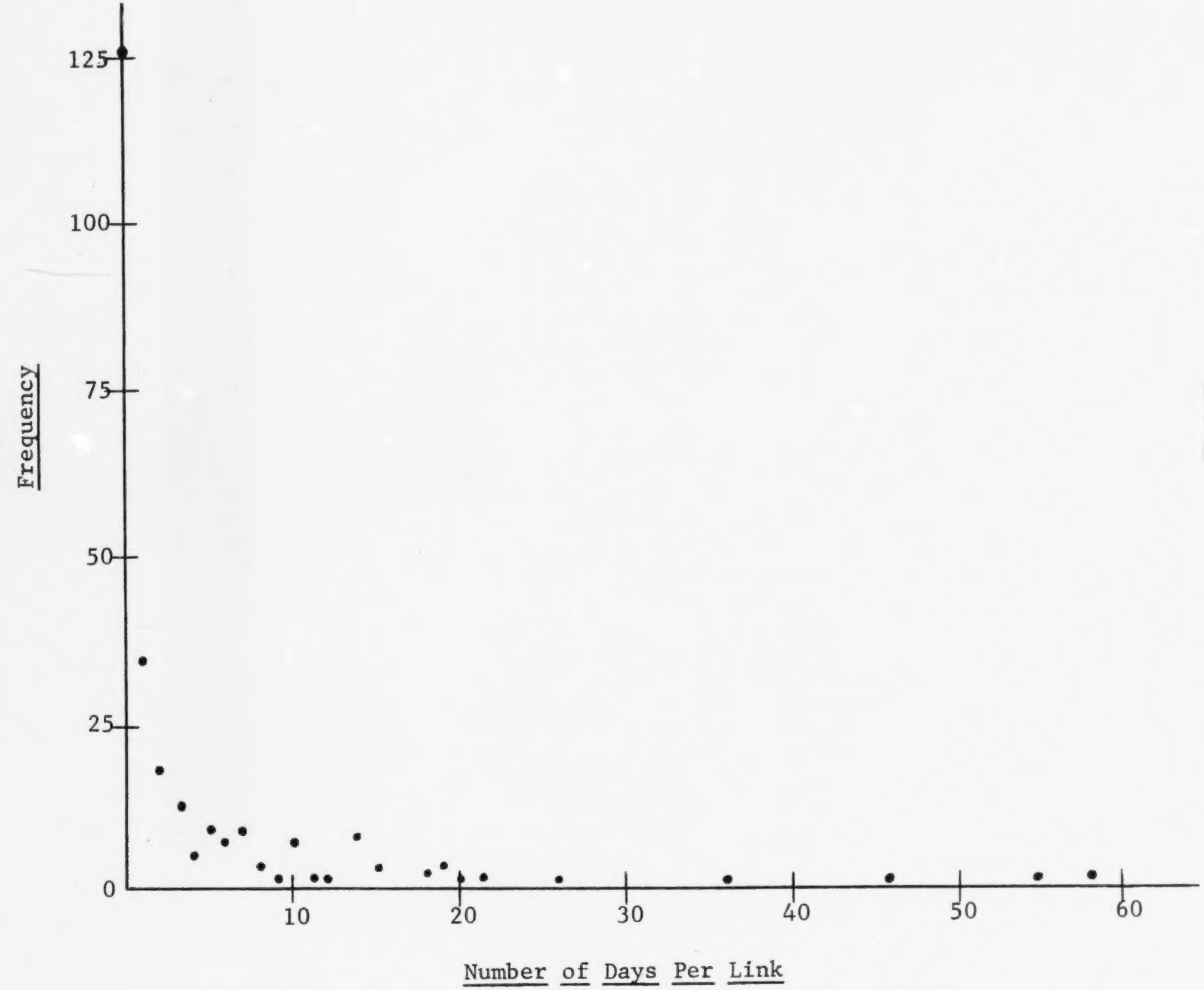


FIGURE 26

TIME PER LINK IN REQUEST PATH FOR BIB

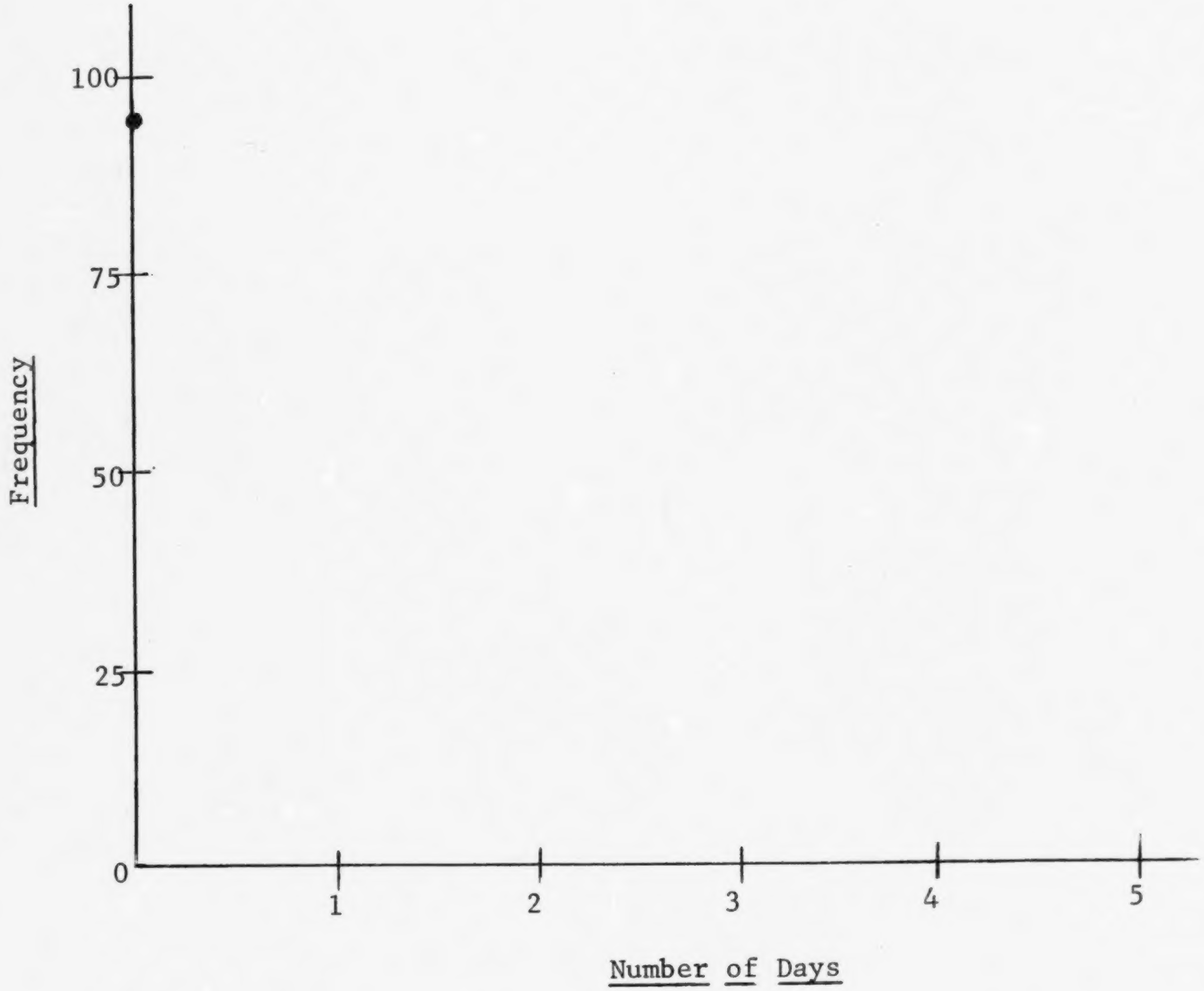


FIGURE 27

TIME PER LINK IN RESPONSE PATH FOR BIB

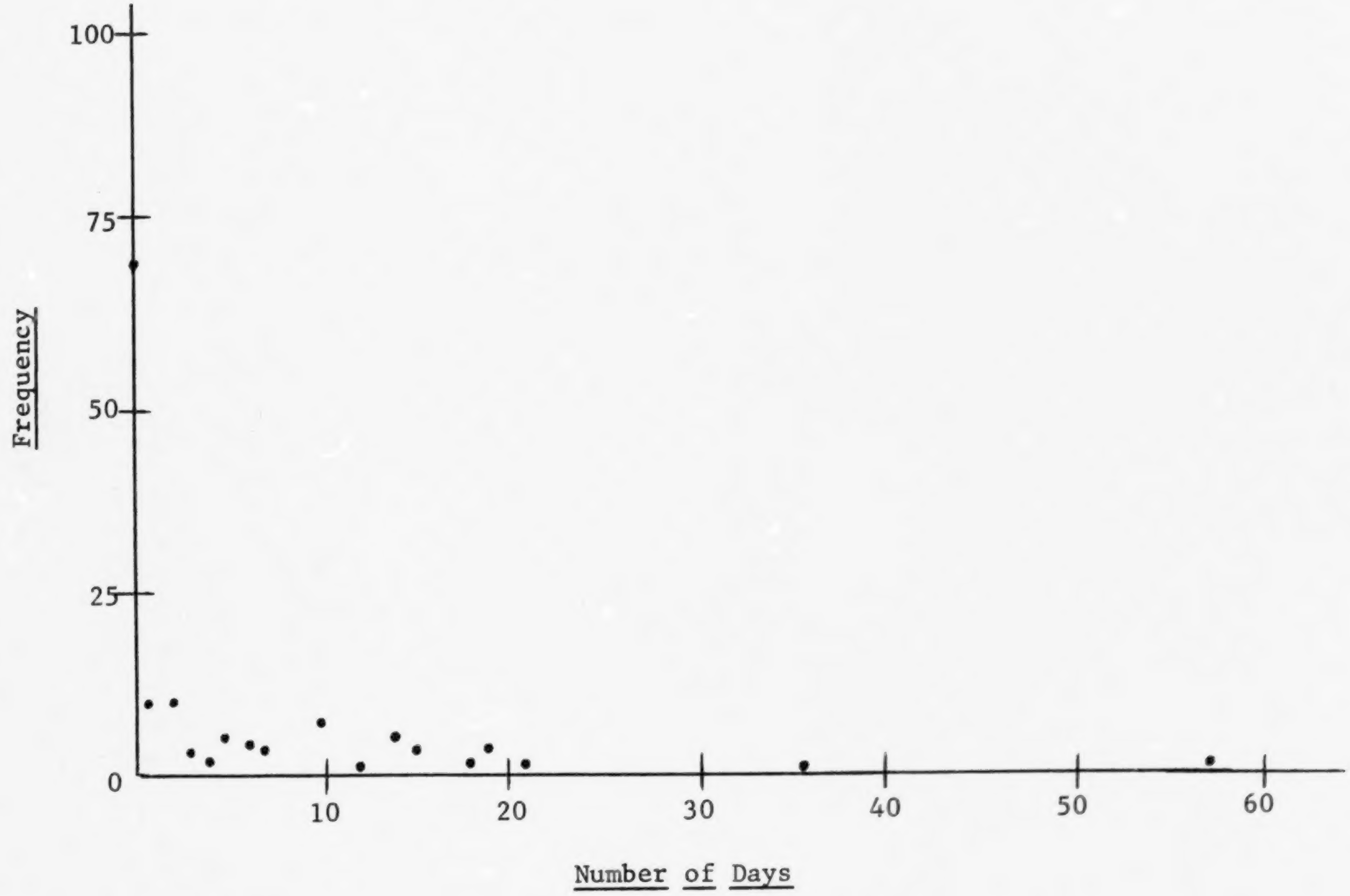
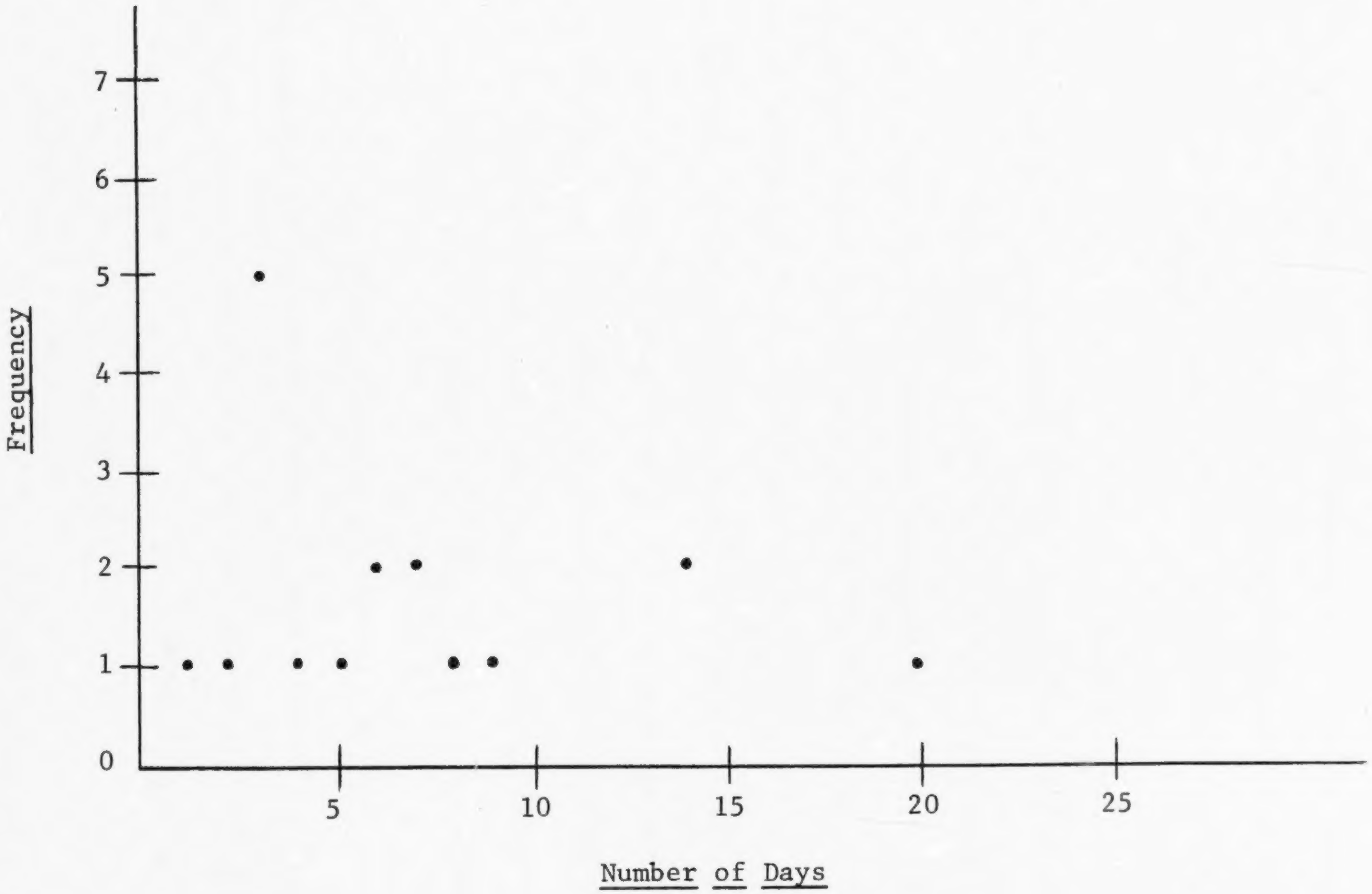


FIGURE 28

TIME PER LINK IN RESPONSE PATH FOR SWRC



Measures of Participation

Dependency coefficients were calculated for each SARC and CSL. These are shown in Figure 29 , p. 135 . Roughly, the dependency coefficient is a measure of how much a given library must rely on outside sources to satisfy its users. It is calculated by dividing the library's borrowing transactions by the library's total transactions, those involving both lending and borrowing $\left(\frac{B}{B+L}\right)$.*

It can be seen from the figure that the Denver SARC, CSL, and the Pueblo SARC fell within the balanced zone, in effect the net borrowing of those libraries equaled their net lending. All other SARCs, however, appeared to be net borrowers. And of these, Durango and New Castle were the SARCs most dependent on outside resources.

Figure 30 , p. 136 shows each SARC's transaction activity with respect to activity on the Network as a whole. The dependency coefficient for each SARC was plotted against its activity coefficient. The activity coefficient was obtained by comparing the borrowing and lending of a given node or SARC with the borrowing and lending of the total Network $\left(\frac{Bn + Ln}{Bt + Lt}\right)$. The resulting graph, then, demonstrates borrowing dependencies of the different SARCs and CSL as well as the relative participation of each SARC and CSL in the Network. As can be seen, the Denver SARC and CSL contributed most to the Network's activity at the system level.

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* Maryann Duggan, "Library Network Analysis and Planning."

FIGURE 29

DEPENDENCY COEFFICIENTS FOR EACH SARC AND CSL

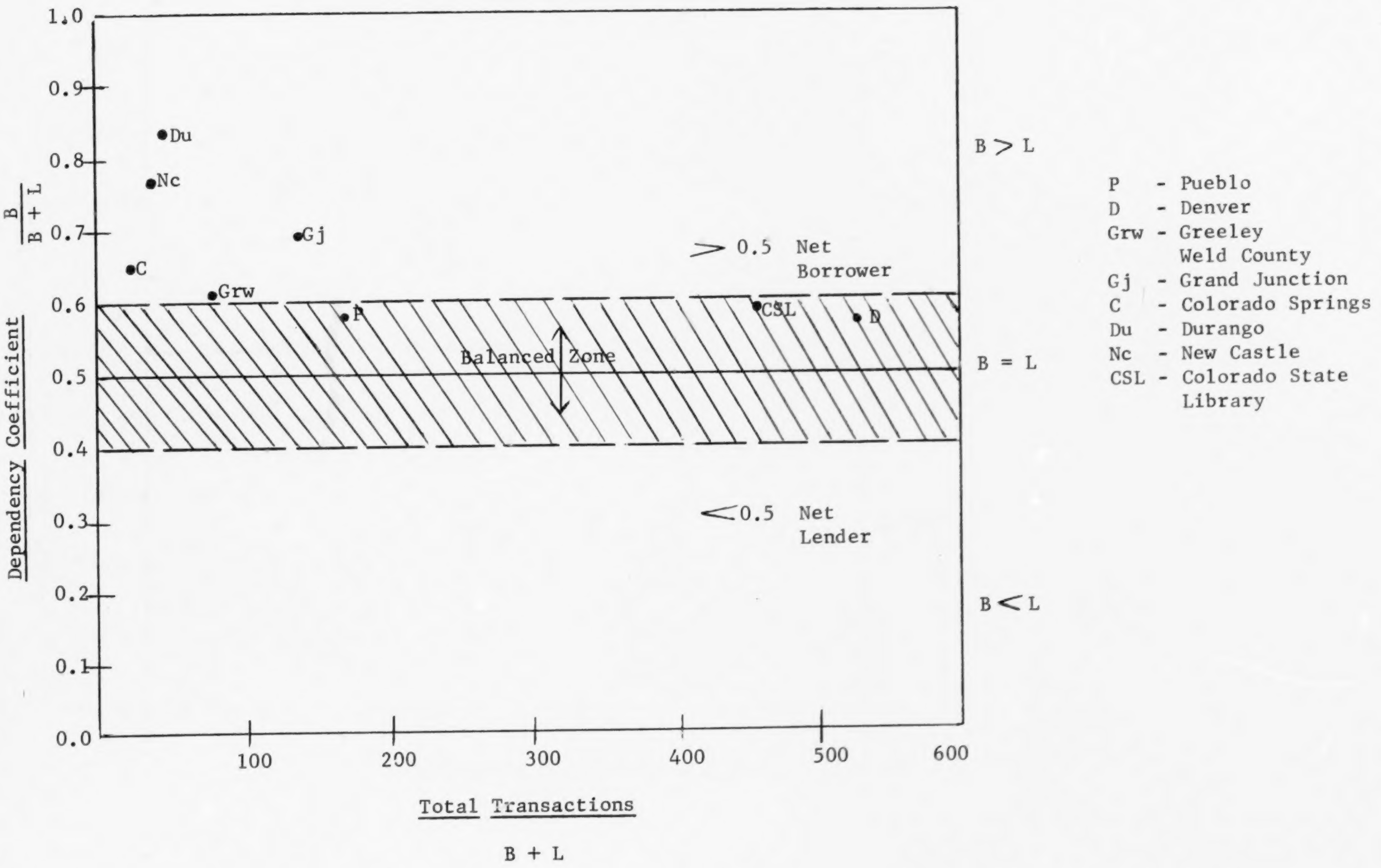
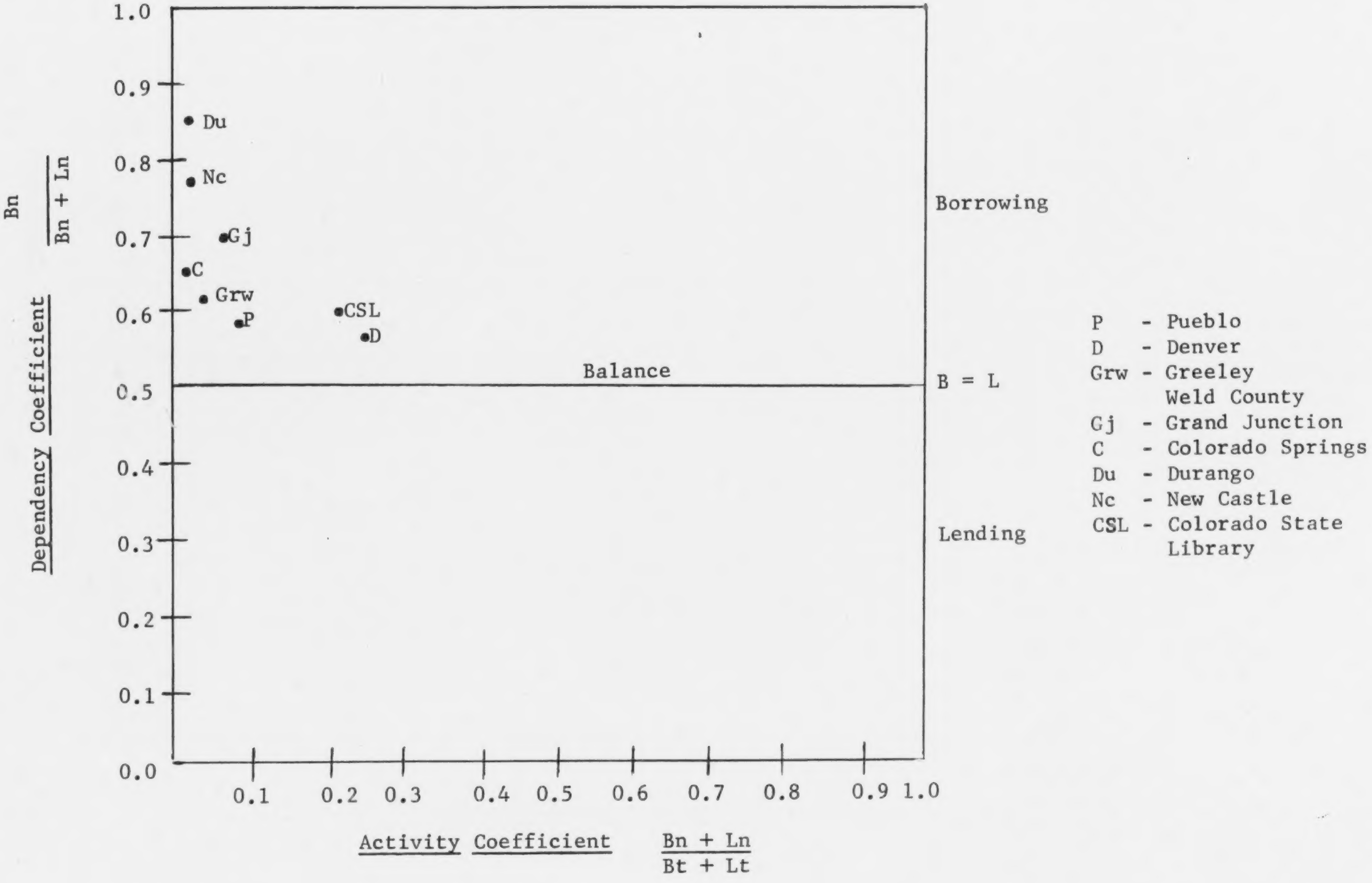


FIGURE 30

NODE/NETWORK RELATIONSHIPS FOR EACH SARC AND CSL



Findings: Input/Output Analysis

Tables 45 through 54 , pp. 138-147 record separately for each SARC, CSL, and the SWRC the input-output analysis of request path transactions classified according to the type of request. As can be seen, most of the transactions received by the SARCs and BIB as well as those relayed to the state level involved requests of the subject-document type.

Special mention must be made of the BIB Center. Of a total number of 263 transactions of all types, 147 were filled, 113 relayed and 116 unfilled. Subject requests for documents and facts were relayed to the SWRC without an attempt being made to fill them, while the requests for location and bibliographic information were either filled or unfilled and relayed at BIB.

Table 55 , p. 148 is a summary analysis of input/output transactions in the request path for all SARCs, CSL, BIB, and SWRC. Of the total number of transactions of all types for the study period, 778 or 62.7 per cent were filled, 463 or 37.3 per cent were unfilled, and 438 or 35.3 per cent were relayed. The SARC's ability to fill transactions at its level was as high as 74.8 per cent at Denver and 72.3 per cent at Pueblo and as low as 18.4 per cent at Durango.

TABLE 45

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY THE PUEBLO SYSTEM AREA RESOURCE CENTER

Type of Request	Total Transactions	# and % Unfilled	# and % Filled	# and % Relayed
Subject-Document Reply	98	26 26.5%	72 73.5%	26 26.5%
Subject-Fact Reply	2	1 50.0%	1 50.0%	1 50.0%
Bibliographic Verification	0	0 0.0%	0 0.0%	0 0.0%
Location	1	1 100.0%	0 0.0%	1 100.0%
Bibliographic Verification and Location	0	0 0.0%	0 0.0%	0 0.0%
Totals and Percentages	101	28 27.7%	73 72.3%	28 27.7%

TABLE 46

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY THE DENVER SYSTEM AREA RESOURCE CENTER

Type of Request	Total Transactions	# and % Unfilled	# and % Filled	# and % Relayed
Subject-Document Reply	222	6 2.7%	216 97.3%	2 0.9%
Subject-Fact Reply	10	3 30.0%	7 70.0%	1 10.0%
Bibliographic Verification	23	23 100.0%	0 0.0%	23 100.0%
Location	32	32 100.0%	0 0.0%	32 100.0%
Bibliographic Verification and Location	11	11 100.0%	0 0.0%	11 100.0%
Totals and Percentages	298	75 25.2%	223 74.8%	69 23.2%

TABLE 47

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY THE GREELEY-WELD COUNTY SYSTEM AREA RESOURCE CENTER

Type of Request	Total Transactions	# and % Unfilled	# and % Filled	# and % Relayed
Subject-Document Reply	48	18 37.5%	30 62.5%	18 37.5%
Subject-Fact Reply	1	0 0.0%	1 100.0%	0 0.0%
Bibliographic Verification	0	0 0.0%	0 0.0%	0 0.0%
Location	1	1 100.0%	0 0.0%	1 100.0%
Bibliographic Verification and Location	0	0 0.0%	0 0.0%	0 0.0%
Totals and Percentages	50	19 38.0%	31 62.0%	19 38.0%

TABLE 48

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY THE GRAND JUNCTION SYSTEM AREA RESOURCE CENTER

Type of Request	Total Transactions	# and % Unfilled	# and % Filled	# and % Relayed
Subject-Document Reply	93	58 62.4%	35 37.6%	52 55.9%
Subject-Fact Reply	4	2 50.0%	2 50.0%	2 50.0%
Bibliographic Verification	0	0 0.0%	0 0.0%	0 0.0%
Location	1	1 100.0%	0 0.0%	1 100.0%
Bibliographic Verification and Location	0	0 0.0%	0 0.0%	0 0.0%
Totals and Percentages	98	61 62.2%	37 37.8%	55 56.1%

TABLE 49

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY THE COLORADO SPRINGS SYSTEM AREA RESOURCE CENTER

Type of Request	Total Transactions	# and % Unfilled	# and % Filled	# and % Relayed
Subject-Document Reply	10	2 20.0%	8 80.0%	2 20.0%
Subject-Fact Reply	3	3 100.0%	0 0.0%	3 100.0%
Bibliographic Verification	0	0 0.0%	0 0.0%	0 0.0%
Location	2	2 100.0%	0 0.0%	2 100.0%
Bibliographic Verification and Location	0	0 0.0%	0 0.0%	0 0.0%
Totals and Percentages	15	7 46.7%	8 53.3%	7 46.7%

TABLE 50

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY THE DURANGO SYSTEM AREA RESOURCE CENTER

Type of Request	Total Transactions	# and % Unfilled	# and % Filled	# and % Relayed
Subject-Document Reply	34	28 82.4%	6 17.6%	28 82.4%
Subject-Fact Reply	4	3 75.0%	1 25.0%	3 75.0%
Bibliographic Verification	0	0 0.0%	0 0.0%	0 0.0%
Location	0	0 0.0%	0 0.0%	0 0.0%
Bibliographic Verification and Location	0	0 0.0%	0 0.0%	0 0.0%
Totals and Percentages	38	31 81.6%	7 18.4%	31 81.6%

TABLE 51

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY THE NEW CASTLE SYSTEM AREA RESOURCE CENTER

Type of Request	Total Transactions	# and % Unfilled	# and % Filled	# and % Relayed
Subject-Document Reply	30	21 70.0%	9 30.0%	21 70.0%
Subject-Fact Reply	0	0 0.0%	0 0.0%	0 0.0%
Bibliographic Verification	0	0 0.0%	0 0.0%	0 0.0%
Location	0	0 0.0%	0 0.0%	0 0.0%
Bibliographic Verification and Location	0	0 0.0%	0 0.0%	0 0.0%
Totals and Percentages	30	21 70.0%	9 30.0%	21 70.0%

TABLE 52

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY THE COLORADO STATE LIBRARY

Type of Request	Total Transactions	# and % Unfilled	# and % Filled	# and % Relayed
Subject-Document Reply	170	29 17.1%	141 82.9%	26 15.3%
Subject-Fact Reply	63	36 57.1%	27 42.9%	32 50.8%
Bibliographic Verification	3	1 33.3%	2 66.7%	1 33.3%
Location	32	31 96.9%	1 3.1%	31 96.9%
Bibliographic Verification and Location	5	5 100.0%	0 0.0%	5 100.0%
Totals and Percentages	273	102 37.4%	171 62.6%	95 34.8%

TABLE 53

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY THE STATEWIDE REFERENCE CENTER

Type of Request	Total Transactions	# and % Unfilled	# and % Filled	# and % Relayed
Subject-Document Reply	71	2 2.8%	69 97.2%	0 0.0%
Subject-Fact Reply	4	1 25.0%	3 75.0%	0 0.0%
Bibliographic Verification	0	0 0.0%	0 0.0%	0 0.0%
Location	0	0 0.0%	0 0.0%	0 0.0%
Bibliographic Verification and Location	0	0 0.0%	0 0.0%	0 0.0%
Totals and Percentages	75	3 4.0%	72 96.0%	0 0.0%

TABLE 54

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH RECEIVED BY THE BIBLIOGRAPHICAL CENTER

Type of Request	Total Transactions	# and % Unfilled	# and % Filled	# and % Relayed
Subject-Document Reply	105	105 100.0%	0 0.0%	105 100.0%
Subject-Fact Reply	9	8 88.9%	1 11.1%	7 77.8%
Bibliographic Verification	23	0 0.0%	23 100.0%	0 0.0%
Location	85	3 3.5%	82 96.5%	1 1.2%
Bibliographic Verification and Location	41	0 0.0%	41 100.0%	0 0.0%
Totals and Percentages	263	116 44.1%	147 55.9%	113 43.0%

TABLE 55

INPUT/OUTPUT ANALYSIS OF TRANSACTIONS IN THE REQUEST PATH FOR ALL SARCS, CSL, BIB, AND SWRC

	Pueblo	Denver	Greeley Weld County	Grand Junction	Colorado Springs	Durango	New Castle	Biblio-graphical Center	Statewide Reference Center	Colorado State Library	TOTALS
Total Number of Transactions	101	298	50	98	15	38	30	263*	75*	273	1241*
Number and Percentage Unfilled	28 27.7%	75 25.2%	19 38.0%	61 62.2%	7 46.7%	31 81.6%	21 70.0%	116 44.1%	3 4.0%	102 37.4%	463 37.3%
Number and Percentage Filled	73 72.3%	223 74.8%	31 62.0%	37 37.8%	8 53.3%	7 18.4%	9 30.0%	147 55.9%	72 96.0%	171 62.6%	778 62.7%
Number and Percentage Relayed	28 27.7%	69 23.2%	19 38.0%	55 56.1%	7 46.7%	31 81.6%	21 70.0%	113 43.0%	0 0.0%	95 34.8%	438 35.3%

* Number varies from total request transactions due to incomplete information.

Findings: Interview

The following paragraphs indicate the reactions of state and system administrators to the questions asked in the interview.

Administrators overwhelmingly agreed (100 per cent) that the service provided most by the Statewide Reference Network was interlibrary loan in response to author-title requests, rather than the provision of subject information in response to reference requests. These subject-reference requests may or may not have resulted in interlibrary loan.

The majority of state and system administrators felt that some public, school, community college, special, and academic libraries never used the Statewide Reference Network. Furthermore, they unanimously agreed that the type of library utilizing the SWRN most was the public library. The following table indicates the administrators' opinions on factors which caused the lack of use of the Network by some libraries.

TABLE 56

LACK OF USE OF SWRN

Name one main reason why libraries that have access to the Network don't use it.

Reason Given By Administrator	Percentage
Don't know Service exists	39.2
Don't know what it can do for them	21.8
Don't know how to use	13

TABLE 56--Continued

Reason Given By Administrator	Percentage
Not enough incentive for primarily lending libraries	13
Too poor service	8.7
Desire to remain autonomous	4.3

When asked whether they were satisfied completely, partially, or not at all with the administration of the SWRN, 91.3 per cent or 21 administrators responded they were not satisfied. None were completely or even partially satisfied and 8.7 per cent or 2 persons would not commit themselves. They were then asked a series of questions concerning the existence of standardized policies and procedures. In response to the question regarding whether or not the State Library had established or contracted for written policies, 95.7 per cent responded negatively. When asked if the SARCs had established written policies in the absence of, or in addition to, state policies, the majority again responded negatively.

TABLE 57

SARC WRITTEN POLICIES

Have SARCs written policies. . .for local libraries within their systems in addition to or in the absence of state policy?

Response of Administrator	Percentage
No	65
Some	22

TABLE 57--Continued

Response of Administrator	Percentage
Yes	8.7
No response	4.3

In similar questions regarding the establishment or existence of written procedures by the State Library or SARCs, there was little agreement among the administrators (see Table 58). According to 91.3 per cent or 21, the quality of service was restricted because of the limitations the Network regulations and procedures imposed. The sample librarians' preference for the allocation of administrative responsibility was a council of representatives from all types of participating libraries and from all levels of service (see Table 59 , p. 152).

TABLE 58

STATE AND SARC PROCEDURES

Has the State Library established or contracted for statements of written . . . procedures to be followed by Network users? Have SARCs written . . . procedures for local libraries within their systems in addition to or in absence of state policy?

Response of Library Administrator	Percentage
Yes - State Lib.	47.9
Yes - SARC	47.9
No - State Lib.	47.9
No - SARC	26
Some - State Lib.	0
Some - SARC	21.8
No response - State Lib	4.3
No response - SARC	4.3

TABLE 59

ADMINISTRATION

Who should administer the Statewide Reference Network?

Response of Librarian	Percentage
Representative body from all types of participating libraries and from all levels of service	56.5
Colorado State Library	39.2
No response	43

Eleven or 47.9 per cent (a substantial number) of the 23 replied that the cost of the Network was not justified. The reasons for this attitude were ascertained and are organized in the following table. A revised method of funding was favored by 82.6 per cent of the administrators.

TABLE 60

LACK OF COST JUSTIFICATION

If the current cost of the Network is not justified or partially justified, what is the main reason for a lack of cost benefit?

Reason Given By Administrator	Percentage
Not enough activity on the Network	39.3
Poor service	21.7
No response	21.7
Not enough types of libraries using the Network	13
Inefficiency of operations	4.3

Most of the system and state librarians (22 or 95.7 per cent) conceded that the use of the SWRN was very poorly publicized to potential Network users. They (95.7 per cent) expressed the opinion that, of the persons who had used the Network, most were introduced to the service in the library, through communication with the librarian. Only one person thought that patrons were introduced to the service by publicity efforts outside the library. Concerning whether or not the libraries throughout the state were adequately informed about the services available and procedures for use of the Network, 95.7 per cent or 22 administrators responded negatively.

The following paragraphs conclude the summarization of the interview findings of this report. The following findings were grouped together because they express the subjects' opinions about the improvement of Network efficiency and effectiveness.

The administrators (100 per cent) believed that SARCs should be able to communicate directly with each other by TWX or any other channel without going through the State Communications Center. Most (91.3 per cent) felt that there was no need for access to the Network on weekends or evenings.

Only two of the system and state librarians thought the library systems had a knowledge of locations of holdings in libraries within their boundaries. Most, or 73.9 per cent, denied the existence of files locating all of a system's resources, while 17.4 per cent said locations were known of "some" of the system libraries' holdings. There was general agreement (91.3 per cent) that the establishment of state-wide and/or system location files would help prevent requests from being unnecessarily relayed to the state level.

Many of the administrators indicated that more state-wide standardization of Network operations would be beneficial. Specific operations which they felt should be standardized were recorded and are arranged in order of importance in Table 61 .

TABLE 61

STANDARDIZATION

What operation most needs standardization?

Response of Administrator	Percentage
Procedures affecting all participants	43.5
Policies affecting all participants	21.8
Record-keeping	13
Selectivity policy	13
No response	8.7

All but one noncommittal person shared the belief that some form of automation could aid Network efficiency. Responses pertaining to the operation which could be most beneficially automated were inventoried and are displayed in Table 62.

TABLE 62

AUTOMATION

What operation would be most effectively automated?

Operation Named	Percentage
Location catalogs	47.9
Record-keeping	39.2

TABLE 62--Continued

Operation Named	Percentage
Monitor on telephone	4.3
Radio connection to SARC from local system libraries	4.3
No response	4.3

Finally, in the absence of a written selectivity policy, administrators were asked how participating libraries determined which requests were "valid" or acceptable for placing on the Network (Table 63). Twenty or 87 per cent of the respondants felt that feedback experience of rejected requests and guessing were the methods most librarians used.

TABLE 63

VALIDITY

How is it determined which requests are "valid" ones to be placed on the Network?

Response of Administrator	Percentage
Feedback experience of rejected requests	56.5
Guess	30.5
Workshops or memos information	8.7
No response	4.3

Findings: Questionnaire

Accompanied by a letter from the State Librarian, a questionnaire (Appendix) was mailed to 385 local libraries in Colorado as listed in the Directory of Colorado Libraries. Ten community colleges, 181 school districts, and 194 public libraries were sent questionnaires.* Questionnaires were not sent to academic and special libraries because most of these libraries are not participants in the Statewide Reference Network. The questions were concerned with local reference services and local use of the Statewide Reference Network. The data in the following tables and text represent the answers of the local libraries as obtained from the questionnaires. The anonymity of each library's response was assured by a standardized, non-identifiable return envelope. This was done in order to elicit the most accurate and honest responses. Two follow-up postcards were sent to all the libraries as reminders to return their questionnaires if they had not already done so.

Of the 385 questionnaires sent, 273 or 71 per cent were returned. For the specific type of library and geographical area breakdown see Table 64 , p. 157 . Although 194 or 50 per cent of the 385 questionnaires were sent to public libraries, 167 or 61 per cent of the 273 returned questionnaires were from these public libraries. Thus, the return for public libraries was 86 per cent as compared to 71 per cent for all local libraries. In the following tables, the findings are reported by all local libraries, except in the cases where there is a significant difference between the public library responses and those of all local libraries (including public libraries). In such cases, public library findings are reported in separate tables.

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* Aims College was not included because of no existing library.

TABLE 64

QUESTIONNAIRES RETURNED BY TYPE OF LIBRARY AND GEOGRAPHIC AREA

	SENT	RETURNED
Public Libraries		
Arkansas Valley	28	26
Central Colorado	53	32
High Plains	36	40*
Pathfinder	17	14
Plains and Peaks	14	14
Southwest	19	16
Three Rivers	27	25
	194	167
School Districts	181	94
Community Colleges	10	9
TOTAL	385	273

* The discrepancy perhaps exists due to a misreading of the question "are you a public library in the High Plains region?" Presumably, some non-public libraries in the High Plains region answered this question in the affirmative.

Reference Services

The responses from the returned questionnaires indicate that, although more than 90 per cent of all local libraries provide reference service to patrons in the library, less than one-third have a professional reference staff. The majority of all local libraries do have telephones, answer reference requests by telephone, and accept reference requests by mail (Table 65).

TABLE 65

REFERENCE SERVICES OFFERED BY ALL LOCAL LIBRARIES

SERVICE	% YES	% NO	% NO RESPONSE
Provides reference service to patrons in the library	92	6	2
Has professional reference staff	31	68	1
Has a telephone	55	45	0
Answers reference requests by telephone	51	46	3
Accepts reference requests by mail	59	37	4

Further breakdown into public library responses is provided by Table 66. A large percentage of public libraries claimed they performed the listed reference services, but only a small percentage of them have professional reference staffs.

TABLE 66

REFERENCE SERVICES OFFERED BY PUBLIC LIBRARIES

SERVICE	% YES	% NO	% NO RESPONSE
Provides reference service to patrons in the library	96	3	1
Has professional reference staff	23	75	2
Has a telephone	65	33	2

TABLE 66--Continued

SERVICE	% YES	% NO	% NO RESPONSE
Answers reference requests by telephone	68	32	0
Accepts reference requests by mail	74	23	3

Use of Resources Outside the Library

Although 91 per cent of all local libraries consulted outside sources for requests unanswered in their own libraries, only 43 per cent said they were asked to assist other libraries (see Table 67). Therefore, some libraries were used more than others in answering reference questions from other libraries and in filling interlibrary loan requests.

TABLE 67

USE OF RESOURCES OUTSIDE THE LIBRARY BY ALL LOCAL LIBRARIES

	% YES	% NO	% NO RESPONSE
Is your library asked to assist in answering requests for information or interlibrary loan?	43	56	1
If a request cannot be answered from the resources of your library, do you go to outside sources for help?	91	8	1

If yes, how often is outside help used?	Always	8%
	Often	40%
	Sometimes	51%
	Never	1%
What is the single most frequently used outside source?	Other local libraries in the area	40%
	System Area Resource Center (SARC)	43%
	Colorado State Library	6%
	Non-library agency	1%
	Other	10%
	No response	0%

TABLE 67--Continued

What is the second most frequently used outside source?	Other local libraries in the area 27% System Area Resource Center (SARC) 17% Colorado State Library 23% Non-library agency 4% Other 14% No response 15%

Generally, local libraries used equally as their major outside source of resources other local libraries and the SARC. Local public libraries, on the other hand, consulted the SARC (also a public library) more often than they consulted other libraries. Possibly the colleges consulted other college libraries and public libraries, and schools also consulted the local public libraries -- if so, this would explain the finding that the total group of libraries had a higher use of other local libraries than the public libraries.

Use of the Statewide Reference Network

An important result -- the Statewide Reference Network had been used by only 43 per cent of all local libraries and only 52 per cent of the public libraries (see Table 68 and Table 69 , p. 161). Also, libraries used the Statewide Reference Network more for interlibrary loan of author-title requests than for answering reference questions.

TABLE 68

USE OF THE STATEWIDE REFERENCE NETWORK BY ALL LOCAL LIBRARIES

QUESTIONS	% YES	% NO	% NO RESPONSE
Have you ever used the Statewide Reference Network?	43	54	3

TABLE 68--Continued

QUESTIONS	% YES	% NO	% NO RESPONSE
IF YES --			
Have you used the SWRN for interlibrary loan of author-title requests?	96	1	3
Have you used the SWRN to answer reference questions?	59	32	9
Have you used the SWRN within the last six months?	81	15	4

TABLE 69

USE OF THE STATEWIDE REFERENCE NETWORK BY PUBLIC LIBRARIES

QUESTIONS	% YES	% NO	% NO RESPONSE
Have you ever used the Statewide Reference Network?	52	48	0
IF YES --			
Have you used the SWRN for interlibrary loan of author-title requests?	98	1	1
Have you used the SWRN to answer reference questions?	67	26	7
Have you used the SWRN within the last six months?	87	13	0

Sixty-three per cent of all libraries which had used the Network were completely satisfied with the service received (Table 70, p. 162). Of those not satisfied, 92 per cent attributed their dissatisfaction to the amount of time required for the acquisition of resources (Table 71, p. 162). The second main reason for dissatisfaction was inadequate or irrelevant resources.

TABLE 70

SATISFACTION OF ALL LOCAL LIBRARIES

How satisfied were you with the service you received from the network?

CATEGORIES	PERCENTAGE
Completely satisfied	63%
Partially satisfied	34%
Not satisfied	1%
No response	2%

TABLE 71

REASONS FOR DISSATISFACTION WITH THE NETWORK BY ALL LOCAL LIBRARIES

MOST IMPORTANT CRITERIA	ACTUAL RESPONSES	PERCENTAGE
Resources received too often inadequate or irrelevant	1	2%
Time required to receive resources too long	39	92%
Communication or relations with personnel at System Area Resource Center (SARC)	1	2%
Communication or relations with State Communications Center (at Bib Center)	1	2%
Communication or relations with the Statewide Reference Center (at Denver Public Library)	1	2%

SECOND MOST IMPORTANT CRITERIA	ACTUAL RESPONSES	PERCENTAGE
Resources received too often inadequate or irrelevant	9	21%
Time required to receive resources too long	2	5%

TABLE 71-Continued

SECOND MOST IMPORTANT CRITERIA	ACTUAL RESPONSES	PERCENTAGE
Communication or relations with personnel at System Area Resource Center (SARC)	4	10%
Communication or relations with State Communications Center (at Bib Center)	1	2%
Communication or relations with the Statewide Reference Center (at Denver Public Library)	1	2%

Criteria for Requests

While 85 per cent of all local libraries which had used SWRN had never had a request refused because of its "validity," 63 per cent responded that the SWRN should have a selectivity policy for accepting requests. Only 20 per cent said "no" to a selectivity policy, while 17 per cent did not respond to the question. For public libraries, 83 per cent of those which had used the Network never had a request refused because of its "validity." Similarly, a majority (69 per cent) were in favor of a selectivity policy and 19 per cent were undecided or apathetic.

Recommendations for Network Improvement

Those libraries which had used the Network were asked to rate each of thirty-four listed recommendations as to "the importance of each as needed to increase Network efficiency and effectiveness " (Table 72 , p. 164). The categories for rating were: "most needed," "needed," or "not needed." Percentages in the table were calculated on the basis of 118 libraries which had used the SWRN, even though thirty of these did not respond to this question. Table 72 organizes some of the higher percentage recommendations into their respective rating categories and lists the response percentages. From this table, it may be inferred that local librarians feel that training programs, more rapid service, and funding for resources at all levels are the most important areas for improvement of the Network.

TABLE 72

RECOMMENDATIONS FOR NETWORK IMPROVEMENT BY ALL LOCAL LIBRARIES

Most Needed	
30%	Training programs to provide instruction to libraries, including instruction in policy and procedures.
25%	More rapid access to reference and interlibrary loan services.
24%	Funding to local libraries to develop resources.
Needed	
44%	Funding to Statewide Reference Center to develop resources.
42%	Standardization of record-keeping and statistics.
42%	System area location files.
40%	Funding for development of media resources at all levels.
40%	Funding to System Area Resource Centers (SARCs) to develop resources.
Not Needed	
37%	Increased hours of access to State Communications Center (Bib Center).
32%	Better System Area Resource Center administration.
32%	Better State Communications Center (Bib Center) administration.
29%	Better Statewide Reference Center (SWRC at Denver Public Library) administration.

Findings: Cost

The following tables reproduce the cost information which was available. Tables 73 and 74 , pp. 166-169 list the allocations and expenditures for fiscal years 1969 and 1970 as presented by the Colorado State Library. For fiscal year 1969, these include the expenditures of the State Communications Center, the Statewide Reference Center, and the total expenditures of each SARC. Sources of the funds are also indicated. Expenditures are divided into salaries, books, audio-visual materials, equipment, contractual services, and all other operations. In 1969, the expenditures of the system reference services and the SARCs are not separately broken down but are given as part of the total system's operation. However, in fiscal year 1970, SARCs information is reported separately from other system operations.

Table 75 , pp. 170 and 171 presents reports from the Bibliographical Center for Research on the transmission and allied costs of its functions as the State Communications Center.

TABLE 73

EXPENDITURES
FISCAL YEAR 1969

PROGRAM & ALLOCATIONS (Source)	SALARIES	BOOKS	AV MATERIALS	EQUIPMENT	CONTRACTL. SERVICES	ALL OTHER OPERATIONS
State-Wide Communications & Referral (Bib. Center)						
$50,000.00 - State	$39,386.21	(bibliography) $ 1,703.23	$ -	$180.58	TWX-phone $6,993.07	$ 1,736.91
Statewide Reference Center						
$80,900.00 - State	10,961.52	29,400.48	1,581.17	-	-	38,956.83
Arkansas Valley						
$25,701.73 - LSCA I	5,050.77	17,229.30	-	309.47	-	3,112.19
25,701.76 - State	5,050.76	17,229.30	-	309.48	-	3,112.22
51,403.49 - Total						
Central Colorado						
$62,957.08 - LSCA I	21,292.93	11,956.44	4,183.30	78.40	-	25,446.01
62,957.18 - State	21,292.95	11,956.44	4,183.35	78.42	-	25,446.02
125,914.26 - Total						
Plains & Peaks						
$20,909.04 - LSCA I	2,974.40	1,907.60	-	-	-	16,027.04
20,909.14 - State	2,974.44	1,907.64	-	-	-	16,027.06
41,818.18 - Total						

Pathfinder						
$11,403.61 - LSCA I	2,994.48	5,210.43	-	26.33	-	3,172.37
11,403.60 - State	2,994.48	5,210.42	-	26.33	-	3,172.37
22,807.21 - Total						
Southwest						
$ 9,926.52 - LSCA I	5,993.99	2,408.75	-	114.01	-	1,409.77
1,926.52 - State	5,994.00	2,408.74	-	114.00	-	1,409.78
19,853.04 - Total						
Three Rivers						
$ 9,830.50 - LSCA I	5,318.87	1,018.25	500.00	-	-	2,993.38
9,969.97 - State	5,318.87	1,018.25	500.00	-	-	3,132.85
10,800.47 - Total						
High Plains						
$22,728.42 - LSCA I	8,862.41	7,935.73	-	-	-	5,930.28
22,728.55 - State	8,862.46	7,935.77	-	-	-	5,930.32
45,456.97 - Total						
Systems (7):						
$163,596.72 - State						
163,456.90 - LSCA I						
327,053.62 - Total						

Presented by Colorado State Library

TABLE 74

EXPENDITURES
FISCAL YEAR 1970

PROGRAMS & ALLOCATIONS (Source)	SALARIES	BOOKS	AV MATERIALS	EQUIPMENT	CONTRACTL. SERVICES	ALL OTHER OPERATIONS
State-Wide Communications & Referral (Bib. Center)						
$ 5,719.92 - State	$ -	$ -	$ -	$ -	$ 5,719.92	$ -
32,625.32 - LSCA I	-	-	-	-	32,625.32	-
18,000.00 - LSCA III	-	-	-	-	18,000.00	-
56,345.24 - Total						
Statewide Reference Center						
$ 5,648.36 - State	4,635.86	891.64	-	-	-	120.86
12,135.00 - LSCA I	9,960.54	1,914.77	-	-	-	259.69
17,783.36 - Total						
State-Wide References (7 Area Resource Centers)						
State						
High Plains - $19,290.00	11,660.09	6,378.69	-	115.65	-	1,135.57
Plains & Peaks - 13,300.00	13,300.00	-	-	-	-	-
Ark. Valley - 17,975.00	11,814.42	1,606.64	-	616.81	-	3,937.13
Mesa County - 7,270.00	6,625.16	51.89	-	-	-	592.95
Three Rivers - 5,100.00	3,877.78	754.11	-	-	-	468.11
Central Colo. - 88,555.00	42,229.82	10,698.39	33,310.50	-	-	2,316.29
Southwest - 7,030.00	3,675.00	1,500.00	-	-	-	1,855.00
Systems:						
High Plains						
$22,435.94 - State	9,875.04	534.88	-	308.08	-	11,717.94
3,490.15 - LSCA I	1,535.92	83.76	-	45.92	-	1,822.55
25,926.09 - Total						

Plains & Peaks						
$22,430.96 - State	13,121.13	2,752.38	-	-	-	6,557.45
3,958.40 - LSCA I	2,313.68	485.33	-	-	-	1,159.39
26,389.36 - Total						
Arkansas Valley						
$23,437.41 - State	4,676.05	11,504.20	5.10	84.58	-	7,167.48
4,136.01 - LSCA I	825.18	2,030.15	.90	14.93	-	1,264.85
27,573.42 - Total						
Pathfinder						
$15,673.41 - State	7,420.94	2,664.54	-	191.25	-	5,396.68
2,765.90 - LSCA I	1,309.58	470.21	-	33.75	-	952.36
18,439.31 - Total						
Southwest						
$14,099.70 - State	7,299.62	2,698.69	-	-	-	4,101.39
2,488.18 - LSCA I	1,288.17	476.23	-	-	-	723.78
16,587.88 - Total						
Three Rivers						
$15,165.90 - State	10,477.31	889.37	537.54	14.83	-	3,246.85
2,676.34 - LSCA I	1,848.94	156.95	94.86	2.62	-	572.97
17,842.24 - Total						
Central Colo.						
$70,546.36 - State	33,711.52	36,545.32	-	-	-	289.52
12,449.36 - LSCA I	5,949.09	6.449.18	-	-	-	51.09
82,995.72 - Total						

Systems: $183,789.68 - State
31,964.34 - LSCA I
215,754.02 - Total

7 Area Resource Centers: $158,520.00 Total, State

Presented by Colorado State Library

TABLE 75

STATE COMMUNICATIONS CENTER TRANSMISSION AND ALLIED COSTS

	1968-69			1969-70				1970-71	
	Sept-Dec	Jan-Mar	Apr-June	July-Sept	Oct-Dec	Jan-Mar	Apr-June	July-Sept	Oct-Dec
Machine costs 6 systems	$1440.00	$1080.00	$1080.00	$1080.00	$1080.00	$1140.00	$1053.00	$1170.00	$1170.00
Machine costs pro-rata Bib. Center	88.00	66.00	66.00	66.00	66.00	70.00	72.00	72.00	72.00
Totals	1528.00	1146.00	1146.00	1146.00	1146.00	1210.00	1125.00	1242.00	1242.00
Transmission									
Ark. Valley	58.35	85.80	77.65	72.95	88.50	103.65	91.50	90.60	99.90
High Plains	29.80	37.30	32.30	31.60	37.00	39.60	22.80	24.60	34.00
Pathfinder	99.90	81.05	62.85	51.05	51.55	59.60	40.45	40.85	51.45
Plains & Peaks	14.20	37.25	31.70	22.15	30.05	23.70	20.35	15.85	19.80
Southwest	82.80	146.00	91,80	87.00	70.80	78.20	64.00	63.60	88.80
Three Rivers	136.96	95.54	101.01	75.97	76.00	68.20	85.40	57.40	77.00
Bib. Center to stations	30.40	41.55	14.35	20.90	34.25	42.40	26.95	28.90	17.95
Totals	452.41	524.49	411.66	361.62	388.15	415.35	351.45	321.80	388.90

Supplies									
Addressograph	12.13	-	18.76	9.60	7.64	-	3.49	-	-
ILL forms	85.00	192.40	192.40	192.40	-	-	-	-	185.00
File cases	-	-	-	28.35	-	-	-	-	-
TWX paper and tape	249.45	210.52	37.70	73.22	26.90	45.84	81.56	42.45	79.81
Stationery	-	-	62.80	-	-	-	93.02	-	-
Postage	72.50	102.50	150.00	100.00	250.00	100.00	50.00	115.00	100.00
Totals	419.03	505.42	461.66	403.63	274.54	145.84	228.07	157.45	364.80

Presented by the Bibliographical Center for Research

CHAPTER IV

Interpretation: Type of Library

Public libraries were the principal library Network users. Table 25 , p. 96 , shows that 74.8 per cent of the request path transactions were public library transactions. There are several possible explanations why there was not more use by the non-public libraries. One is that the Statewide Reference Network grew out of an earlier organized reference network which served only public libraries. Their experience with this Statewide Public Library Reference Service Network made public libraries familiar with network service and its procedures.

Another explanation can be found in the already existing organization of the Public Library Systems for coordination of programs within their areas through their headquarters and SARCs. Those same central points of cooperation facilitated access to Network service. Possibly the education acquired by librarians through system workshops and meetings about how the Network could extend their patron services promoted the use of the Network by the public libraries.

It was mentioned in several of the interviews that, although the public library was the principal library Network user, many patrons whose primary library was of another type, either were referred to the public library by their primary library or came to the public library for service on their own.

Some special libraries used the Network through the Colorado State Library. These included libraries of state agencies and institutions. Also state agencies which had no reference activities at all used the Network through the CSL. The use of CSL as a reference service and interlibrary loan facility for state agencies and institutions has been going on for a longer period than the SWRN has been in operation. Inasmuch as there was already a considerable number of requests coming into the State Library before the SWRN, what the Network has provided was essentially an extension of service for existing patrons.

A small number of school libraries used the Network, accounting for only 4.5 per cent of the request path transactions. Many schools in Colorado do not have school libraries, and, where they do, they are not always coordinated at the district level. Attempts were made by the State Library to draw school districts and their libraries into the Network by devising procedures and a system of organization for sharing of resources within a district. A partial location file, created by the districts for auditing purposes, was to be used as a finding list. If a request could not be satisfied in the district, a local public library or the area SARC was to be used as a means of input into the Statewide Reference Network. This rather indirect route, through several switching centers, perhaps prohibited many school library users. A program of educating school districts about the Network and how to use it was begun but never completed.

There were no community college transactions in the sample drawn for the study. Possibly either community colleges did not know of the Service or had found it unsatisfactory and used the traditional ALA interlibrary loan procedures for tapping outside sources.

Academic libraries do not place their own requests on the Network at this time. In the study, 0.9 per cent of the total transactions in the request path were handled by academic libraries, but these were for cases in which a request was directed to an academic library for answering.

Conclusion: Type of Library

All types of libraries are not participating in the Statewide Reference Network, although patron users from different libraries might be gaining access to the Network through the public library. Lack of knowledge of the Service or the lack of easy access perhaps hinders use by some types of libraries.

Interpretation: Type of Patron

The most apparent finding of the study of patron Network users, as can be seen in Table 38, p. 114, was that the status of 54 per cent of the patrons was unknown. This means what was learned about the types of people using the Network was based on only 46 per cent of the sample transactions. Perhaps librarians placing requests did not know of the procedure to include the patron's status, felt it was unimportant or the patron's private affair, or did not think that particular information was necessary to satisfactorily fill the request.

The patron status most often reported was that of professional. It could be that librarians, teachers, and other professionals were more aware of the Service. On the other hand, selected reporting of this status may have been made in an effort to provide better service with respect to speed or appropriateness of material.

Students of all types ranked second in recorded use of the Network. They accounted for 14.8 per cent of the patron Network users. "Student" is a more easily identifiable status than some others, and can often be determined without prying or offending the patron. A reason for making a point of recording student status may have been to indicate intended use or level of material needed. Perhaps professionals and students are generally bigger users of libraries than some other groups. Because of the speciality of professional material and the in-depth research that students often do, it seems more likely that professional and student requests were ones that could not be satisfied locally and required use of the Network to be filled.

A very small number of users were recorded in other patron categories. Apparently, the laborer, operative, and mineral industry worker did not make use of the Service at all. The question occurs whether these non-users or infrequent Network users were even users of libraries in significant amounts, whether they were aware of the Service, or whether their status was just not recorded on the request form.

Conclusion: Type of Patron

Inasmuch as patron status was reported in only 46 per cent of the transactions, no valid conclusions can be drawn concerning the actual status of patrons using the Statewide Reference Network.

Interpretation: Activity by Type of Request

An overwhelming percentage (71.7) of the transactions placed on the Network involved subject requests which were answered by document replies,(Table 3 , p. 70). The explanation for the Network being used primarily for document exchange is that its operations facilitated better service for a request requiring interlibrary loan of documents than for one requiring a factual answer.

Repeatedly in the interviews of system administrators, it was mentioned that subject requests that could be answered simply with information facts were often translated into requests for documents because experience had shown that in so doing faster and more appropriate service would be achieved. One librarian admitted to the use of Subject Guide to Books in Print in order to translate a factual request to one asking for titles on a particular subject before she transmitted the request over the TWX. Another librarian recounted an experience of one of her patrons who requested information or documents on antique light bulbs. At some point in the request path chain of transactions, the query was misinterpreted, in that the patron received a junior-level biography of Thomas Edison in reply to his request.

The Bibliographical Center for Research, functioning as State Communications Center for the Network, gave reference service for bibliographical verification and location information. The BIB Center's activity on the Network was limited to transactions with SARCs, because these central points within the systems were equipped with TWX facilities. Most requests for this type of information, once the information was found,were followed up with author-title requests for documents.

Conclusion: Activity by Type of Request

The dialogue often necessary for satisfying a request for information or documentation is frequently eliminated by existing Network operations and procedures. As a result, the Statewide Reference Network has become primarily an interlibrary loan system for document exchange, except for the reference services offered by the Bibliographical Center for Research.

Interpretation: Type of Channel

Findings for type of channel used in request paths are represented by data only for libraries at the SARC level. Channel use of local libraries was not included on the request forms and is therefore unknown. It is likely that telephone and letter were the local channels used in the request path, but no assumptions were made in tabulation.

From the available data, the telephone seems to have been the channel most used at the SARC level. This was due mainly to its use by the Denver SARC and CSL, within whose areas of service the long distance telephone charges are small or non-existent. The channel most used by other SARCs was TWX.

Courier service is available only in the Central Colorado System. Although it ranked first in channel use there, it accounted for only 9.6 per cent of the total Network channel activity.

In the response path, the mail was the channel most used by every system, except the Denver system, which is the only system that uses the courier service. Heavy use of the mail reflected the high incidence of subject requests requiring document replies.

Conclusion: Type of Channel

Aside from the courier service which is available only in the Central Colorado System, the channels most used by libraries to transmit a message in the request path are the telephone and TWX. The mail is most used in the response path. The telephone receives greatest use where toll charges are small or non-existent.

Interpretation: Activity by Originating Level

A considerable amount of the activity on the Network (74.5 per cent of the transactions) originated at the local level of service. Over 90.2 per cent of the transactions on that level involved requests that were answered with document replies. It is possible that these requests, which required information on particular subjects, specified that a document response was the form desired. On the other hand, it is also possible that responses were made in the form of document replies because of the ease of selecting and shipping off one or several documents which might be responsive to the request. It was perhaps more effort to find a particular answer to the request, to contact the right person by telephone, and to relay a message -- even though a better and faster answer might have been transmitted in this way.

More different types of requests were initiated by the SARCs and the Colorado State Library than by local libraries. This is understandable, considering the role and responsibility of the SARCs and CSL in the Network, e.g., locating materials within system areas and verifying requests before sending them up the Network; and also considering the use by the SARCs and CSL of the TWX channels of communication, which facilitated information transfer.

Conclusion: Activity by Originating Level

Most requests originate at the local level, but more varied types of requests originate at the SARC and CSL levels. Local libraries use the Network primarily for interlibrary loan of documents rather than for information transfer.

Interpretation: Intended Use

For 57.3 per cent of request path transactions, no reporting was made by librarians as to the intended use of the material requested.

The end use of the requested information was not asked for in the procedures for transmitting a request; and many librarians may be unaware of the importance of such information in answering a request well.

The intended use remarks that were recorded appear to have been used only to justify or explain a request and were consistent with the findings of patron status. The heavily reported intended use primarily related to use in a vocation or to use in school.

Conclusion: Intended Use

The value of intended use information in satisfying a request is not recognized by participating librarians.

Interpretation: Type of Remark

No remarks were made on 58 per cent of the transactions in the sample. Librarians may have felt that any remarks about subject requests were unnecessary, not being aware of the helpfulness of pertinent remarks in satisfactorily completing requests. It seems more likely, however, that they feared the waste of time and money on the TWX channel by including explanatory remarks concerning the requests.

Comments about time limitations were the most frequent remarks made. This was probably due to student deadlines and to the usual demand in these times, by all patrons, for "rush" information. It is not surprising that time limitation was a frequent condition on requests from Colorado libraries, considering the number of other studies in the literature reporting response time as an essential factor in user satisfaction.

The transactions handled by the Central Colorado Public Library System and the Colorado State Library had the highest frequency of remarks. Perhaps this was because these participants did not use long-distance channels and could easily and inexpensively clarify requests either by local telephone conversation or by noting remarks on the original request form as opposed to a TWX transcription of the original request.

Conclusion: Type of Remark

Time limitation was the main qualification contained in the remarks made on transactions, although no remarks of any kind were made on 58 per cent of the transactions, either because remarks were felt unnecessary or because they were thought to involve expense.

Interpretation: Response Time and Time Per Link

The time required from the initiation of a request until a response to the request was received was longest during the months of heaviest Network activity, i.e., during times when school was in session. It will be remembered that students were the second most active users of the Network.

With the exception of October, the lowest response times occurred during the summer months. Since October was late in the study period and it was generally known by this time that an evaluation was being conducted, it is possible that participating libraries were making greater efforts to handle requests quickly. Although there is no quantifiable data to substantiate the belief,interview respondants repeatedly mentioned that the response time was short if a request could be satisfied within the system. It was when a request had to be sent to the state level that the response time increased significantly.

The number of hierarchical links in a request path was generally greater than the number of links in a response path. This can be explained by the fact that numerous procedures were required and several switching stations sometimes necessary before a request reached the point at which a response to it could be initiated. Normally, only one link was required in the response path because responding libraries generally sent the required information or document directly to the library that originated the request.

In most cases, the number of days required to complete a link on a request path was less than on a response path. For example, in one case, fifty-eight days were needed to complete a response-path linkage.

Conclusion: Response Time and Time Per Link

The total response time, over both request and response paths, is longest during the months of heaviest Network activity. Response time tends to be considerably longer when a request has to go to the state level.

Interpretation: Dependency of Libraries on the Network

Only the SARCs at Denver and Pueblo and the Colorado State Library (functioning as a resource center) fell within a balanced zone of nearly equal borrowing and lending activity. The remainder of the SARCs were net borrowers with varying degrees of dependency on the Network, Durango and New Castle being the most dependent on the Network in satisfying patron requests within their systems. That the Durango and New Castle SARCs depended so heavily on the Network is understandable in that they have the smallest collections and the smallest number of other libraries within their systems to call upon for cooperation in answering requests.

No library was a net lender in the Network. Although the Denver Public Library as SARC for the Central Colorado System and Statewide Reference Center lent more than any other node, even its lending activity did not exceed its borrowing.

Conclusion: Dependency of Libraries on the Network

Dependency of libraries on Network resources is much greater in some geographical areas than in others. Nearly all libraries are net borrowers, but no library is primarily a lending library.

Interpretation: Input/Output Analysis

Some SARCs were much more capable of satisfying their system area requests than others. The SARCs at Pueblo and Denver were able to fill 72.3 per cent and 74.8 per cent, respectively, of the total number of requests they received from local libraries. Quite different were the capabilities of the SARCs at Durango, New Castle, and Grand Junction, where 81.6 per cent, 70 per cent, and 56.1 per cent, respectively, of the requests could not be answered using system resources and were relayed to the state level. Especially small collections at the Durango and New Castle SARCs, and the fact that adequate lists of locations existed neither locally within these systems nor state-wide, might explain the dependency of these SARCs on the Network.

The Statewide Reference Center filled 96.0 per cent of the subject requests sent to the state level. Most of these requests were answered with documents. The Bibliographical Center for Research filled 100 per cent of the bibliographic verification requests and 96.5 per cent of the location requests it received.

As previously seen in Table 55, p.148, the percentage of requests satisfied by all SARCs, CSL, BIB, and SWRC was 62.7 per cent.

Conclusion: Input/Output Analysis

The capability of some system libraries to fill the requests of their primary patrons is related both to the size of the library collection and the existence of finding lists.

Interpretation: Performance and Network Administration

The findings of the interviews with the state and system administrators can be divided into two categories: opinions on the performance of the Network and opinions on the administration of the Network.

These administrators agreed (1) that service was mainly interlibrary loan rather than reference, (2) that public libraries were the main users, (3) that request validity was determined by previous feedback or by guess, and (4) that libraries which did not use the Network either did not know of it or did not know how to use it. Also, (5) 47.9 per cent of the administrators thought that the cost of the Network was not justified, either because of lack of activity or because of poor service. These opinions were confirmed by the analysis of transactions and the questionnaire data obtained from local libraries.

These negative reactions to the efficiency and effectiveness of the Network can perhaps be explained by a second group of reactions -- those directed to the administration of the Network. Over 90 per cent of those interviewed were not satisfied with the administration of the SWRN. The majority of the SARCs did not have written policies, their administrators were unsure as to whether written procedure statements existed, and poor publicity was admitted.

The definite lack of administrative policies and procedures (or at least the lack of knowledge of them) was very possibly the primary reason for the lack of Network objectives and activity, the uncertainty concerning local and SARC responsibilities, and the dissatisfaction with the performance of the Statewide Reference Network.

Conclusion: Performance and Network Administration

Dissatisfaction with the performance of the Statewide Reference Network is directly related to the lack of administration at the SARC and state levels.

Interpretation: Cost

The cost data available are yearly budget reports. These reports, however, lack the necessary detailed information for a cost analysis of the Statewide Reference Network. The expenditures for fiscal year 1969 (see Table 73 , p. 166) report the costs of all system programs for the year, not separating reference service costs from those of other system-wide programs of service. In the budget report of fiscal year 1970 (see Table 74, p. 168) SARC and reference service costs were allocated and were reported as separate expenditures, but they were not sufficiently itemized for valid cost analysis.

The information needed for an analysis includes such statistics as the cost of using existing building facilities, public utilities charges, the cost of existing or purchase of new equipment and supplies, the cost of materials for reference, circulation, and professional use, personnel costs, as well as communication costs at all levels of service. For adequate state-wide analysis and comparison, reporting procedures would necessarily need to be made uniform.

One difficulty is that the Statewide Reference Network is not a separately identifiable entity either physically or financially. The SARC is "part" of a local public library operation using the same building and same resources available to local staff and local patrons.

The State Communications Center is "part" of the Bibliographical Center for Research, and the Statewide Reference Center is "part" of the interlibrary loan operation which also services the Denver Public Library as a SARC and as a local public library. A cost analysis would require knowledge of the actual cost of the full and proportionate use of personnel, materials, equipment, etc., at all levels of the Network.

Various questions must be considered before a cost analysis can be begun: are author-title requests equivalent to subject requests? are all reference questions being recorded? can the cost of the Network reference service be singled out from the cost of the total reference service provided by any one library?

Ultimately, an economic evaluation must involve a determination of whether or not the costs of operating the Network reference service are justifiable in terms of the benefits derived.

Placing a value on reference service, of course, involves many intangibles. It is essential, however, that an attempt be made to develop techniques to establish meaningful values for Network reference services in terms of efficiency and effectiveness.

Conclusion: Cost

No valid or reliable cost analysis can be made due to lacking information of actual operational costs, units of reference service, and expected and actualized benefits, all of which are necessary for cost benefit measurements.

SUMMARY OF RECOMMENDATIONS

Lack of adequate administration was concluded to be the major cause of Network inefficiency and ineffectiveness. Recommendations I-VII make suggestions for improvement of Network administration and are prerequisite to the more specific recommendations that follow.

I. The Colorado State Library should remain the central agency for administration of the Statewide Reference Network. It should accept responsibility for the planning and the design of the Network; it should delegate role responsibilities and specialties and, it should be responsible for implementing operations and continuous evaluation.

II. The Colorado State Library should identify a position within the organizational structure at the appropriate level for an administrator of the Statewide Reference Network.

III. A governing committee -- other than the Colorado Council on Library Development -- should be established to work closely with the administrator of the Statewide Reference Network in the guidance and direction of the Network's development and in the determination of policy. The group should represent Network participants in all types of libraries and from all levels of service.

IV. Objectives of the Statewide Reference Network should be established. Some agreed-upon measures of performance should be decided before planning and redesign are attempted.

V. The administrator of the Network, the governing committee, and the State Librarian should establish some division of Network functions by designating role responsibilities and role specialization. Eliminating duplicate functions would result in more time, money and effort for mutually beneficial improvements. Such a designation would not advocate authority for the local, system, or state level, but rather would allocate powers and responsibilities to those levels and libraries most competent to effectively and efficiently render particular Network service functions.

VI. A plan for developing and implementing the Statewide Reference Network according to its objectives should be constructed for the future. The plan should be one that takes into account the needs of growth and possibility of change and one that allows for the studying of alternatives and analyzing of preferences and for a choosing from preferred alternatives. Such a planned action would increase the probability of achieving a better future for the Network.

VII. Efforts should be made to standardize Network policies and procedures wherever this action would benefit Network users and improve operational performance and evaluation. This standardization would include such things as determining the kinds of information to be collected and at what points, developing uniform procedures for collecting and reporting data, and clarifying policies and procedures for using and maintaining the System. Standardization should not be considered a threat to autonomy; it is a means to better service and mutual tangible benefits.

VIII. A means of providing for the equitable participation of all types of libraries in the Network should be encouraged. Since public, school, and community college libraries are now the only users of the Network, a second Statewide Reference Center at the University of Colorado for academic and special libraries should be established and funded. Other efforts for equitable participation might require the redesign of Network operations to facilitate access for all types of libraries.

IX. An improved means of rapid and effective communication is needed. Present facilities cause unnecessary delays and poor service. Channels and hierarchy should be flexible enough for requests and responses to be made in the most efficient manner along an optimum path. It is suggested that requests for author-title items continue to be transmitted as they are now by telephone or mail to SARCs and by TWX to BIB. Subject requests for information or documents, however, require a different process because of the necessity for negotiation about a patron's need. This might better be accomplished at all levels by a more personal means of communication, for instance through telephone conversation.

Any system devised should mesh into the state-wide hierarchy and, conceivably, into larger regional, national, and international networks. It should therefore possess interface capability and compatibility for all types of libraries at all levels of service. It should also provide for transmission of non-print materials, first within a system and later state-wide.

X. A regular program for education of library Network users should be undertaken through workshops, meetings ornewsletters that advertise Network policies and procedures. Patron users and potential patrons should be informed of Network services by publicizing within as well as outside of libraries.

XI. A cost analysis should be conducted to determine actual costs and where inefficiencies occur. This would require an identification of costs and standardization of record-keeping.

XII. A funding procedure based partly on measures of participation should be devised to take into account the borrowing and lending of a particular library. It should be determined what the basic operating costs of a system are and the allocation of funds according to participation measures should be over and above the determined basic operating costs.

XIII. The Colorado State Library should assist in the development of adequate local and SARC collections. The linkage of libraries into system and state-wide cooperation can increase the strength and number of access points of already adequate libraries. But reliance on Network strength as an alternative to satisfying primary patron needs could defeat the System's purposes. The Statewide Reference Network hierarchy can be viewed as a pyramidal structure with the State Library at the apex and a system of strong local libraries as the foundation. Without the base of strength sufficiently represented by local libraries in primary functions and responsibilities, the structure cannot exist and is in danger of collapsing under the forces which it was meant to overcome.

XIV. A continual program of research for experimentation and evaluation should be established for maintaining and improving the System.

XV. The Statewide Reference Center operation at the Denver Public Library should be distinctly separated from the SARC operation for the Central Colorado System. The number of personnel is presently inadequate for two operations, and funds should be made available for a separation. This change would insure that neither group received priority or better service.

XVI. The Bibliographical Center for Research serves the Statewide Reference Network as its State Communications Center. It operates at the state level as the major switching center for relaying requests to other points on the Network, identifying locations for referring requests, and providing reference information needed for bibliographic verification. The Colorado State Library should decide whether it will continue to contract with BIB to perform these Network services or whether it will perform these functions another way. If the latter alternative is chosen, it should be remembered that such a choice would be very costly, would duplicate location files and services already in existence, and would require halting Network service while a new communications center could be established. If, however, the current BIB contract is continued, and BIB is delegated the Network switching center and reference functions, future contracts should state a required accountability for quality of service given and operations efficiency for fulfillment of the agreement. Consideration should be given to providing the adequate financial support to BIB for expanding and improving service, reducing costs and accomplishing the associated Network objectives.

XVII. The Colorado State Library should lead in devising and implementing a plan for state-wide bibliographical control that would facilitate the creation of a selective state-wide catalog, system area finding lists, and the location of subject strength and non-print resources, using as a base the holdings of the State Communications Center.

COLORADO DEPARTMENT OF EDUCATION BYRON W. HANSFORD, COMMISSIONER OF EDUCATION
DENVER, COLORADO 80203 · TELEPHONE (303) 222-9911
Colorado State Library, 1362 Lincoln Street

September 11, 1969

UNIVERSITY OF DENVER
RECEIVED
SEP 15 1969
GRADUATE SCHOOL
OF
LIBRARIANSHIP

Margaret Knox Goggin, Dean
Graduate School of Librarianship
University of Denver
Denver, Colorado 80210

Dear Dean Goggin:

Some time ago we discussed the need for the Colorado State Library to transmit to you a written set of objectives for the Statewide Reference Network for use in your Center's evaluation study. Enclosed is a copy of these objectives. If you have any question regarding these, please contact me.

I must apologize for the delay in transmittal, but circumstances are much more auspicious at this time. If we can be of further service, please let us know.

Cordially,

Joan Harrigan

Mrs. Joan Harrigan, Director Title III LSCA
Interlibrary Cooperation

JH:ed

Enclosure

COLORADO DEPARTMENT OF EDUCATION BYRON W. HANSFORD, COMMISSIONER OF EDUCATION
DENVER, COLORADO 80203 · TELEPHONE (303) 222-9911
Colorado State Library, 1362 Lincoln Street

September 11, 1969

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Objectives of Statewide Reference Network

General Objective:

To permit maximum use of the resources of all libraries by all persons in the State.

Specific Objectives:

1) To provide access to the resources presently available in all types of libraries by:
   a. determining availability of resources within each system area before entering the state and regional levels of service.
   b. providing materials and services from the point closest to the user.
   c. funding the development of basic holdings and resources within each system area.
2) To facilitate access to all resources by:
   a. providing means of rapid communication
   b. developing location files

Developmental Objectives:

1) To coordinate the cooperative usage of resources through a Planned Statewide Resources Development program.
2) To develop an evaluation procedure which includes a compatible procedure for determining unit costs at the various service levels and the standardization of data collection.
3) To enlarge the teletype communication network enabling the system area resource centers to communicate with each other.

Developmental Objectives (continued)

4) To extend the participation of libraries within each system area to include all types of libraries.

5) To expand the primary interlibrary loan function into a comprehensive reference service program.

THE **CENTRAL COLORADO SYSTEM AREA REFERENCE CENTER REPORT

	Author & Title Requests				Subject Requests				Total Requests				Circulation			Total Circulation		
MONTH	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	SARC Books	Other Books	Reserves Placed*	Books	Xerox Pages	Films
Jan. '70	1684	1010	118	589	215	234			1899	1362		589	1347	35	222	1382	188	292
Feb.	1617	1019	167	608	234	215			1851	1401		608	1226	30	287	1310	228	351
March	1806	1207	232	755	214	226			2020	1665		755	1530	33	252	1563	167	340
April	1893	1251	156	789	256	215			2139	1622		789	1451	17	495	1580	262	300
May	1223	868	114	505	186	201			1409	1183		505	1166	18	227	1184	207	302
June	1425	964	131	587	138	142			1563	1237		587	1285	20	259	1305	118	211
Subtotal	9648	6319	918	3833	1243	1233	0		10881	8470	0	3833	8005	153	1742	8324	1170	1796
July	1601	910	109	613	213	173	2		1814	1191	111	618	1166	34	314	1200	120	235
August	1349	833	82	384	158	119	1		1507	1035	83	384	1001	79	100	1080	103	177
Sept.	1639	913	103	600	228	240	1		1866	1257	104	600	1192	86	287	1278	125	278
Oct.	1769	880	167	720	267	213	2		2036	1262	169	720	1113	54	291	1167	337	434
Subtotal	6358	3536	461	2317	866	745	6		7223	4745	467	2322	4472	253	992	4725	685	1124
TOTAL	16006	9855	1379	6150	2109	1978	6		18104	13215	467	6155	12477	406	2734	13049	1855	2920

*Within System

**Total Requests Filled includes all requests to Comm. Center

Presented by Colorado State Library

THE HIGH PLAINS SYSTEM AREA REFERENCE CENTER REPORT

	Author & Title Requests				Subject Requests				Total Requests				Circulation			Total Circulation		
MONTH	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	SARC Books	Other Books	Reserves Placed*	Books	Xerox Pages	Films
Jan. '70	353	181	170	2	43	38	5		396	219	185	2	226		39		24	
Feb.	381	185	190	5	71	60	11		452	246	207	5	252		32	252	155	
March	293	143	145	5	76	63	13		369	206	158	5	246		35	246	67	
April	250	153	95	4	80	79	1		330	230	96	4	344		51		92	
May	186	105	72	9	36	35	1		227	140	73	9	148		24		32	8 pam 1 mag
June	172	93	63	16	20	20			192	113	63	16	108		38		7	
Subtotal	1635	860	735	41	326	295	31		1966	1154	782	41	1324		219	498	377	8 pam 1 mag
July	265	134	124	7	26	21	5		288	155	126	7	128		34	pam 2	6	
August	216	120	92	4	28	21	7		244	141	99	4	138		48			
Sept.	227	95	128	4	56	54	1	1	273	149	129	5	161		26	161	19	
Oct.	256	122	127	7	53	46	7		309	164	138	7	195		29	195	33	
Subtotal	964	471	471	22	163	142	20	1	1114	609	492	23	622		137	pam 2 356	58	
TOTAL	2599	1331	1206	63	489	437	51	1	3080	1763	1274	64	1946		356	pam 2 854	435	8 pam 1 mag

*Within System

Presented by Colorado State Library

THE PATHFINDER SYSTEM AREA REFERENCE CENTER REPORT

	Author & Title Requests				Subject Requests				Total Requests				Circulation			Total Circulation		
MONTH	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	SARC Books	Other Books	Reserves Placed*	Books	Xerox Pages	Films
Jan. '70	280	92	139	21	66	42	22		346	134	161	21	127		121	268		
Feb.	241	116	165	36	104	60	15		345	176	180	36	212		110	334	15	
March	163	63	105	32	58	41	18		221	104	123	32	114		59	237	122	
April	217	83	137	29	52	40	12		269	123	149	30	151		65	239	18	
May	124	57	75	19	28	23	4		152	80	79	19	84		53	153		
June	164	59	119	37	38	24	16		202	83	135	39	84		42	169		
Subtotal	1189	470	740	174	346	230	87		1535	700	827	177	772		450	1400	155	
July	202	78	91	34	28	21	7		228	99	98	34	97		14	138	29	
August	182	47	73	26	37	20	16	1	219	67	89	27	83		23	178	49	
Sept.	252	101	130	24	49	44	8		301	145	138	24	184		26	280	8	6
Oct.	197	72	100	36	31	18	9		228	90	109	36	113		28	217	38	
Subtotal	833	298	394	120	145	103	40	1	976	401	434	121	477		91	813	124	6
TOTAL	2022	768	1134	294	491	333	127	1	2511	1101	1261	298	1249		541	2213	279	6

*Within System

Presented by Colorado State Library

THE PLAINS & PEAKS SYSTEM AREA REFERENCE CENTER REPORT

	Author & Title Requests				Subject Requests				Total Requests				Circulation			Total Circulation		
MONTH	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	SARC Books	Other Books	Reserves Placed*	Books	Xerox Pages	Films
Jan. '70	229	89	59	21	39	37			268	126	104	21			66	194	19	
Feb.	181	47	73	5	59	57	1		240	104	106				52	164	62	14 pam
March	123	56	36		35	32			158	88	127				33	193	9	4 pam
April	234	102	70		49	47			283	149	106				61	195	6	7 pam
May	124	28	55	24	28	23			39	51	86	24			47	90	5	1 pam
June	119	32	51	8	22	19			140	51	76	8			34	109	4	200
Subtotal	1010	354	344	58	232	215	1		1128	569	605	53			293	945	105	26 pam
July	113	35	36	10	13	12	1		126	47	79	15			42	95	4	3 / 4
August	65	17	23		19	15			84	32	68	8			29	66	38	2 pam
Sept.	106	55	24	2	27	24			133	79	74			23	30	94	12	9
Oct.	92	33	34		63	57	2		155	90	104	17		67	29	156	14	pam 7
Subtotal	376	140	117	12	122	108	3		498	248	325	40		90	130	411	68	12 9 pam /4
TOTAL	1386	494	461	70	354	323	4		1626	817	930	93		90	423	1356	173	12 35 pam /4

*Within System

Presented by Colorado State Library

THE SOUTHWEST** SYSTEM AREA REFERENCE CENTER REPORT

	Author & Title Requests				Subject Requests				Total Requests				Circulation			Total Circulation		
MONTH	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	SARC Books	Other Books	Reserves Placed*	Books	Xerox Pages	Films
Jan. '70	360	212	155	17	29	20	9	0	389	232	164	17	135			135	13	
Feb.	397	206	212	29	36	28	16	0	433	234	229	29	145	0	0	145	109	0
March	425	263	161	26	51	29	21	0	476	292	183	26	165	4		169	33	
April	413	148	274	19	50	31	19	0	463	169	293	19	185	3	0	185	13	0
May	302	167	135	13	27	13	14	0	329	180	149	13	0	0	0	75	29	0
June	199	57	142	14	19	8	11	0	218	65	153	14	51	7				
Subtotal	2096	1053	1079	118	212	129	90	0	2308	1172	1171	118	681	14	0	709	197	0
July	312	97	151	26	21	15	6		333	112	157	26	100				8	
August	258	115	143	28	44	11	33	12	302	126	176	39	63	2				
Sept.	320	158	162	37	67	50	17	1	387	208	179	38	108	4	0	112	12	0
Oct.	329	190	139	22	66	37	29	3	195	227	168	26	162	3	0	0	30	0
Subtotal	1219	560	595	113	198	113	85	16	1217	673	680	129	433	9	0	112	50	0
TOTAL	3315	1613	1674	231	410	242	175	16	3525	1845	1851	247	1114	23	0	821	247	0

*Within System

**Includes Southern Peaks - Alamosa

Presented by Colorado State Library

THE THREE RIVERS SYSTEM AREA REFERENCE CENTER REPORT

	Author & Title Requests				Subject Requests				Total Requests				Circulation			Total Circulation		
MONTH	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	Rec.	Filled	Comm. Center	Ret.	SARC Books	Other Books	Reserves Placed*	Books	Xerox Pages	Films
Jan. '70	254	233	139		8	91			262	324	64							
Feb.	272	165	187		12	48			204	213	133							
March	133	232	168		33				168	262	165							
April	336		223		67		11		460	292	276							101 per.
May	192	68	116	7	49	44	3		241	109	124	7	142		9		32	
June	147	54	96	12	16	5	12		163	44	109		69	4	6			
Subtotal	1334	752	929	19	185	188	26		1498	1244	871	7	211	4	15		32	101 per.
July	241	90	145	8	34	14	12	1	274	74	157	7	205	3	19			
August	219	89	128		23	12	11	1	242	101	139	1	121	2	14			
Sept.	230	86	158	3	38	22	16	1	267	91	174	4	172	1	22		12	4
Oct.	285	142	176	12	14	3	10		263	138	208	5	186	29				14
Subtotal	975	407	607	23	109	51	49	3	1046	404	678	17	684	35	55		12	18
TOTAL	2309	1159	1536	42	294	239	75	3	2544	1648	1549	24	895	39	70		44	101 per. 18

*Within System

Presented by Colorado State Library

SUBJECT REQUESTS REFERRED TO STATEWIDE REFERENCE CENTER
FROM STATE COMMUNICATIONS CENTER 1969

SYSTEM	January	February	March	April May	June	July	August	September	October	November	December	TOTAL
Arkansas Valley	*	*	*	33	16	13	17	14	30	14	15	152
Central Colorado	--	--	--	--	--	--	--	--	--	--	--	--
High Plains	*	*	*	26	6	9	8	15	19	8	3	94
Pathfinder	*	*	*	32	18	20	20	12	21	21	18	162
Plains & Peaks	*	*	*	8	4	5	5	3	3	3	1	32
Southwest	*	*	*	31	7	16	10	11	12	8	8	103
Three Rivers	*	*	*	28	15	8	15	14	12	13	3	108
TOTAL				158	66	71	75	69	97	67	48	651

* Statistics not being kept at this time
-- Central Colorado does not refer requests to SARC level
through State Communications Center

Presented by Bibliographical Center (State Communications Center)

SUBJECT REQUESTS REFERRED TO STATEWIDE REFERENCE CENTER
FROM STATE COMMUNICATIONS CENTER 1970

SYSTEM	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL
Arkansas Valley	24	33	29	25	15	21	15	27	17	26	26	24	282
Central Colorado	--	--	--	--	--	--	--	--	--	--	--	--	--
High Plains	7	21	12	4	8	2	15	6	5	15	8	5	108
Pathfinder	24	17	15	13	0	14	7	17	10	12	22	23	174
Plains & Peaks	2	3	2	4	3	1	0	2	1	3	0	2	23
Southwest	11	14	16	18	13	5	7	8	19	26	18	30	204 185
Three Rivers	16	11	13	14	4	14	12	17	14	15	4	16	150
TOTAL	84	99	87	78	43	57	56	77	66	97	78	100	922

-- Central Colorado does not refer requests to SARC level through State Communications Center

Presented by Bibliographical Center (State Communications Center)

PROCEDURE FOR TRANSMITTING INTERLIBRARY LOAN REQUESTS
(PRELIMINARY ISSUE)

REQUESTS

All requests transmitted by TWX are to include these essentials

1. The identification of the system transmitting the request (the ANSWERBACK CODE for the system)
2. The sequence number of the request
3. The date of message transmittal
4. The name and address of the borrowing library
5. The name of the patron
6. The status of the patron (reason for request; interest or need)
7. Identification of the request should include:
    - a. Full name of author, including middle name if known
    - b. Title
    - c. Place of publication (except when the place of publication is New York, and the publisher is a standard, well-known firm)
    - d. Publisher (short title of publisher may be used, but should be clearly identifiable)
    - e. Date of publication
    - f. Edition
    - g. Verification or source of reference
        1. Verification: the name of the library tool, with volume and date, in which the title has been found
        2. Source: the other reference used to cite the information regarding the requested item; may be magazine article, book, footnote; patron's or librarian's bibliography, etc.

REQUESTS

8. Identification of the request (cont.)
    - h. Remarks (may be request for xerox or time limit in sending)
    - i. For periodical articles, the following information should be given:
        1. Author of article, if known
        2. Title of article
        3. Name of magazine
        4. Complete date: volume, month and year
        5. Inclusive pages of article
        6. Verification or source of reference

When a corrected message is reported back to the system and to the borrowing library, the interlibrary loan message to another library must use the corrected entry.

FORM FOR SENDING REQUESTS

We will follow the following form:
Dial our number
ANSWERBACK CODE for system
Date

Code for system 5sp. ILLRQ no. using correct system identification prefix 5 sp. date

Address tape for requesting library

Insert SUBJ REQ or RUSH as needed

Patron and patron's status

Author
Title, 2 sp. place, publisher, and date
Verification

REMARKS if any

MORE if there is more; END/initials of sender if there is no more to add

EXAMPLE:

Bib Ctr Denver
19/Sept/68

CoGJ Path   ILLRQ PA 1   19/Sept/68

Interlibrary Loan
Mesa County Public Library
521 White Avenue
Grand Junction, Colorado 81500

Rev. Vandemere   Pers Info

Hall, Manly P.
Research on reincarnation. Los Angeles, Calif., Devorss, n.d.
Ver: BIP 67

MORE

TWX MESSAGE - ANSWERBACK CODES

The ANSWERBACK CODE assignments have been standardized. Each system using TWX will have an ANSWERBACK CODE conforming to the Library of Congress or National Union Catalog assigned library code, indicating the city in which the library is located, plus a system abbreviation, to make up a code of total length of not more than 14 characters and spaces.

Likewise, each library participating in the Colorado network will be assigned a library code by the Library of Congress.

The codes for each system appear in the system directory, together with a list of personnel in the system assigned to the network. The directory includes Colorado State Library personnel, the personnel of the State-wide Public Library Reference Center, and the Communications Center.

A complete code list for each participating library is included in the Appendix.

MESSAGE FORMATS - ARRANGEMENT & NUMBERING MESSAGES

Each day's requests are to be arranged alphabetically by name of requesting library, so that all requests from a given library appear together. These should then be arranged in the following order: subject requests, author-title requests, periodical requests, and other messages.

The numbering of the requests shall be in sequence, beginning with No. 1 as the circuit goes into operation, and continuing until the end of each year. At the beginning of each following year, the numbering of requests shall again start with No. 1. Numbering shall be preceded by the initials of each system reference center, i.e.:

TRANSMISSION SCHEDULES TO COMMUNICATIONS CENTER

For initial transmission during fiscal 1968-69, the system reference center libraries are requested to observe the following schedules, Monday through Friday:

High Plains Public Library System	9:00 a.m.
Plains and Peaks Public Library System	9:30 a.m.
Arkansas Valley Public Library System	10:00 a.m.
Southwest Public Library System	10:30 a.m.
Pathfinder Public Library System	11:00 a.m.
Three Rivers Public Library System	11:30 a.m.

The Statewide Communications Center will make every effort to protect these half-hour periods for the use of the systems. Systems may transmit at any time during the half-hour period allotted to them. If there is no message requiring transmission from the system, the Statewide Communications Center will enter the circuit five minutes before the expiration of system time to report to the system the results of the previous day's transactions.

Other necessary or rush messages may be sent at other times of the day, provided the circuit is open. Messages are not to be sent between systems at the present time. Messages may be sent to and from the Colorado State Library and the Western Slope Branch of the State Library, using the Statewide Communications Center as the relay point. The Statewide Communications Center also will relay messages between systems. Messages to and from the Central Colorado Public Library System will be sent via the Statewide Communications Center.

Messages sent on Saturday will be received at the Statewide Communications Center, but will not be processed until the following Monday.

Bibliographical Center for Research. Statewide Communications Center. September 1968
PFH:lh

HP	High Plains Public Library System
CC	Central Colorado Public Library System
PL	Plains and Peaks Public Library System
AV	Arkansas Valley Public Library System
SW	Southwest Public Library System
PA	Pathfinder Public Library System
TR	Three Rivers Public Library System

MESSAGE TAPES

A. Depress LOCAL (LCL) key

B. Depress ON key of tape punch

C. Cut request tapes

   1. Depress RUB OUT and REPEAT keys for approximately 2" to 3" of tape
   2. Depress HERE IS key (ANSWERBACK)
   3. Type date on following line
   4. Depress CAR RET and two LINE FEEDS
   5. Type code for system, space five spaces. Type the interlibrary loan request number using correct system identification prefix, space five spaces. Type the date
   6. Depress CAR RET and one LINE FEED
   7. Insert address tape for library desiring material in the tape reader
   8. Turn on tape reader. Enter address tape into message
   9. Turn off tape reader. Depress key for two LINE FEEDS
   10. Insert SUBJ REQ or RUSH as needed. Depress key for two LINE FEEDS
   11. Type name and status of patron desiring material, depress CAR RET and two LINE FEEDS
   12. Type author, depress CAR RET and one LINE FEED
   13. Type title. Space two spaces. Type place of publication (as required) publisher, date, ed., and depress CAR RET and one LINE FEED
   14. Type verification, depress CAR RET and two LINE FEEDS
   15. Type remarks if any, depress CAR RET and two LINE FEEDS
   16. Type MORE if there is more; type END/initials of sender if there is no more to add

MESSAGE TAPES

C. Cut request tapes (cont.)

17. Depress LINE FEED twelve times
18. Repeat steps if there are more requests
19. Depress RPT and LINE FEED keys until end of message on paper roll is clear of the tear bar of the machine
20. Depress RUB OUT and REPEAT keys for approximately 2" to 3" of tape and tear tape from tape punch
21. Depress OFF key of tape punch

D. Send message

1. Place tape in tape reader (make sure rough side of tape is up and the set of three dots are on the left, the arrow pointing toward you)
2. Depress ORIGINATE (ORIG) key
3. Dial number
4. Wait for called number's ANSWERBACK CODE
5. Turn tape reader switch to START position
6. Wait for answer from Bib Center after playing your tape
7. Depress CLEAR (CLR) key when tape is through
8. Turn tape reader switch to STOP position
9. Remove tape from tape reader

ADDRESS TAPES

This is the procedure for making address tapes for each library in a system. These can be used repetitively on the tape reader to "program" addresses into daily messages. This tape may also be referred to as a Program Tape.

A. Depress LOCAL (LCL) key

ADDRESS TAPES

B. Depress ON key of tape punch

C. Cut address tape

  1. Depress RUB OUT and REPEAT keys for approximately 2" to 3" of tape

  2. Depress CAR RET and one LINE FEED

  3. Type complete address, as follows:

     Line 1: Interlibrary Loan

     Line 2: Name of library

     Line 3: Street or box number

     Line 4: City, state and zip code

  4. Depress CAR RET and one LINE FEED

  5. Depress RUB OUT and REPEAT keys to approximately 2" to 3" of tape

D. Repeat all steps in C

E. Depress ESC and REPEAT keys for approximately 1" of tape. Use space for labelling tapes for storage. (ESC key is non-printing and will perforate only)

F. Depress RUB OUT and REPEAT keys for approximately 2" to 3" of tape

G. Tear off tape

H. The two ends of this tape may be glued together (recommended: Elmer's Glue or Magic Mend, not mucilage). Make sure rough side of the tape faces up. The resulting "circle" tape when inserted into the reader may be used when necessary to repeat addresses for successive requests for the same library

PROOFING THE TAPE PRIOR TO SENDING MESSAGE

The advantage of making the tape prior to actual sending of the interlibrary loan requests is the opportunity to correct errors in the message.

The procedure to be followed in correcting the tape is described below.

All messages should be sent as correctly as possible, to eliminate errors which may affect the proper filling of the interlibrary loan requests.

While the tape is being made, the message is being printed out on the NCR paper. This may be proofread as one proceeds in cutting the tape; or may be proofread later. In proceeding to correct the errors while the tape is being made, see the procedure described.

CORRECTING ERRORS

A. Press BACKSPACE key on tape punch once for each number of spaces typed after the error, plus the number of spaces in the error itself.

B. Depress the RUB OUT key for the same number of spaces.

C. Type the correction and go on with the message from the correction, repeating all of the message which was backspaced and rubbed out.

D. Continue with the rest of the message.

CORRECTION OF COMPLETED TAPES

A. If after completing the tape and proofreading, you find that a correction is needed, take the following steps:

CORRECTION OF COMPLETED TAPES

1. Put tape in the tape reader, starting at beginning of tape
2. Push the ON key for the tape punch
3. Turn on the tape reader
4. Stop the tape reader immediately after error
5. Count back number of spaces including the error
6. Type in correction and all letters following error, which have appeared on the paper roll
7. Turn on the tape reader again (reader will proceed to register on the paper roll the additional letters on the tape not previously appearing on the paper roll)
8. Depress OFF key on the tape punch
9. Turn OFF tape reader. Remove and discard tape which was in the reader
10. Tear off new tape and proofread.

REPORTING BY THE COMMUNICATIONS CENTER

The reporting format followed by the Statewide Communications Center will contain this information:

1. The identification code (ANSWERBACK)
2. The sequence number of the request, followed by the locations
3. The date of message transmittal

The first location given is that of the library to which the request has been referred, i.e., sent.

The Statewide Communications Center will pre-cut all tape. At the conclusion of the current day's message from each system the responses to the requests sent the previous day will be reported within transmittal time assigned, whenever possible. If this should not be possible, a later report will be sent. The Statewide Communications Center will monitor the incoming requests during regular transmittal time, so that responses may be sent immediately upon the conclusion of the incoming message and before shut-down of the system machines.

FORM FOR SENDING REPLIES TO REQUESTS

We will follow the following form:

Our ANSWERBACK
Reporting

Date 5 Sp. Your request no. 5 sp. Our request no.
Locations

EXAMPLE:

Bib Ctr Denver
Reporting

19/Sept/68 ILLRQ PA 1 11153
CoG CoU CoGJ

END/lh

NEW PROCEDURE FOR HANDLING OF INTERLIBRARY LOAN REQUESTS AND FORMS

The Statewide Public Library Reference Service (acting through the System Area Reference Centers, the Statewide Reference Center and the Statewide Communications Center) will begin new procedures for handling interlibrary loan requests at all levels as of April 1, 1970.

The System Area Reference Centers will be the key points in directing interlibrary loan traffic to and from the Statewide Reference Center and the Statewide Communications Center.

Interlibrary loans will continue to originate as a result of patron requests in local libraries (public, school or community college; and others). They will be handled according to the usual procedures in sending them on to the System Area Reference Centers. The Reference Centers will follow present outgoing procedures in forwarding them to the Statewide Communications Center.

The Statewide Communications Center and the Statewide Reference Center will initiate new procedures once the request has been received at these levels. The changes to be made will give to the System Area Reference Centers certain new responsibilities in dealing with the TWX messages as they are returned to them with the information as to the disposition of each request.

These changes essentially are as follows:

1. The SARCs will be the only libraries receiving information as to the referral of requests and the added locations supplied.
2. The local libraries will receive two copies of TWX forms mailed with the book from the SWPLRC. One copy is to be returned with the book when it is mailed back; one may be kept as a local record. They will continue to

receive a separate mailing of the ALA forms when it is necessary to refer an ILL to a library other than the SWPLRC (including the Colorado State Library).

3. For requests sent to but not filled by the SWPLRC, the Statewide Communication Center will report this fact to the SARCs.

4. Once information is received by the local library to the effect that a book is not to be sent from the initial referral, the local library will communicate this to its respective SARC. The SARC will proceed to use the additional locations given and to re-start the request. The SARC will do this automatically when receiving such a report regarding a book not available from the SWPLRC.

5. The local library will request renewals of books lent from the SWPLRC and from the Colorado State Library via the SARC and messages requesting and granting renewals will be handled on the TWX.

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USE OF INTERLIBRARY LOAN FORMS

	Present Procedure	New Procedure
BORROWING LIBRARY	1. Local library takes ILL request on local form.	1. Same
	2. Local library forwards request to SARC by mail or phone.	2. Same
SARC	3. SARC fills request and sends material.	3. Same
	OR	
	4. SARC puts ILLRQ on TWX to Communication Center.	4. Same
COMMUNICATION CENTER	5. Communication Center receives TWX message - 2 copies.	5. Communication Center receives TWX message - 4 copies
	5A. Communication Center attaches work sheet to ILLRQ.	5A. Communication Center separates 1 copy TWX message and attaches work sheet.
		5B. Communication Center stores 3 copies.
	6. Communication Center processes ILLRQ.	6. Communication Center processes ILLRQ.
	7. Communication Center sends 1 copy processed TWX request form w/copy addl. location sheet to SWPLRS.	7. Communication Center sends 3 copies processed TWX request form to SWPLRS and attaches location sheet to CoDB work slip if necessary.
	OR	OR
	8. Communication Center transfers ILLRQ to ALA forms and sends Parts A-D to another lending lib.; white copy labeled Bib. Center to original borrowing library; and files blue copy.	8. Same
	9. Communication Center reports locations to SARC on TWX.	

	Present Procedure	New Procedure
SWPLRS	8. SWPLRS receives 1 copy TWX form and addl. location sheet.	8. SWPLRS receives 3 copies TWX form.
	9. SWPLRS processes ILLRQ.	9. Same
	10. SWPLRS transfers completed ILLRQ to ALA forms and mails parts B-C to orig. borrowing library retaining part A.	10. Eliminated
	11. SWPLRS mails book to borrowing library with Part D of form and addl. location sheet.	11. SWPLRS mails book to borrowing library with 2 copies TWX form.
	12. SWPLRS advises borrowing library it cannot supply and sends appropriate form and location sheet.	12. Eliminated
	13. SWPLRS reports to Communication Center what it has not supplied.	13. Same
		13A. Communication Center reports non-supplied items to SARC.
BORROWING LIBRARY	14. SWPLRS and Communication Center assume borrowing library will use locations and re-start ILLRQ in new direction.	14. SARC advises borrowing library of unsupplied items.
		14A. SARC re-starts ILLRQ in new direction using ALA forms.
	OR	OR
	15. Borrowing library will forget.	15. SARC advised by local library to forget.
	OR	OR
OUTSIDE LIBRARY	9. Another lending library receives ALA forms A-D for request.	9. Same
	10. Another lending library processes request.	10. Same

	Present Procedure	New Procedures
	11. Another lending library mails book.	11. Same
	OR	OR
	12. Another lending library advises borrowing library it cannot supply.	12. Same
BORROWING LIBRARY	13. Borrowing library re-starts request.	13. Borrowing library advises SARC of non-supply. 13A. SARC re-starts request using ALA forms.
	OR	OR
	14. Borrowing library forgets request.	14. Borrowing library forgets request.

RENEWALS

Present Procedure	New Procedures
1. Borrowing library requests renewal from SWPLRS using ALA form.	1. Borrowing library advises SARC it wants renewal from SWPLRS. 1A. SARC transmits renewal request to SWPLRS via Comm. Center. 1B. Comm. Center forwards message to SWPLRS.
2. SWPLRS renews/not renews and advises borrowing library using ALA form.	2. SWPLRS renews/not renews and advises Communication Center. 2A. Comm. Center reports action to SARC. 2B. SARC advises borrowing library.
OR	OR
1. Borrowing library requests renewal from outside library using ALA forms.	1. Same
2. Outside library renews/not renews and advises borrowing library using ALA form.	2. Same

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First Draft

INTERLIBRARY LOAN CODE FOR COLORADO LIBRARIES PARTICIPATING IN THE STATEWIDE REFERENCE SERVICE NETWORK

Adopted by the Colorado State Library and
The Library Systems of Colorado

This code is a voluntary agreement to govern interlibrary lending among libraries in the state of Colorado participating in a statewide reference service program. Although correlated with the A.L.A. National Interlibrary Loan Code, 1968, this Colorado code is intended to promote a more liberalized interlibrary loan policy among the libraries in Colorado adopting it. It is based on the premise that lending among libraries for the use of an individual in the state of Colorado is in the public interest and should be encouraged. However, liberal interlibrary lending should be no substitute for the development of adequate collections based on the needs of the service areas represented, in libraries and library systems.

This code may be further expanded or modified to meet the particular interests of participating libraries.

The American Library Association has published[1] a procedures manual suggested for use in implementing the national code; libraries requesting materials on loan under the provisions of the local code are urged to follow the recommendations of the manual whenever feasible. The Colorado State Library will issue a manual intended to provide supplementary procedures of special pertinence to the statewide reference program.

1. Definition

    1. Interlibrary loans are transactions in which library materials are made available by one library to another; for the purposes

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[1] Publication date June 1970.

of this code they also include the provision of copies as substitutes for loans of the original materials.

II. Purpose

1. Since it is increasingly evident that it is impossible for any one library to be self-sufficient, and in the belief that the furtherance of knowledge is in the general interest, interlibrary borrowing and lending is regarded by the libraries subscribing to this agreement as essential to library service.

III. Responsibility of Lending Libraries

1. Lending libraries have the responsibility of informing borrowing libraries of any failure to observe the provisions of this code, and if necessary may invoke the provisions stated in Sec. XII.

2. Lending libraries will practice as liberal and unrestrictive a policy as is possible in interlibrary loans, with due consideration to the interests of their primary clientele.

IV. Responsibility of Borrowing Libraries

1. It is recognized that interlibrary lending does not relieve any library of the responsibility of developing its own collection. Each library will provide the resources to meet the ordinary study, educational, instructional, informational and research needs of all of its users. Requests to borrow from other libraries will be limited to those items which the library might not be expected to own. No library should depend upon another to supply the normal needs of its clientele except

under special agreement for such service.

2. Borrowing libraries within each System Area will make every effort to exhaust their own resources and the resources of their respective communities before resorting to interlibrary loans sent to the System Area Reference Centers.
3. System Area Reference Center libraries within each System Area will make every effort to exhaust their own regional resources before forwarding interlibrary loan requests to the Statewide Communications Center.
4. Borrowing libraries will screen carefully all applications for loans, rejecting those which do not conform to this code. (See also Art. VII, Conditions of Loans; Art. IX, Form of Request.)

V. Scope

1. Any type of library material needed for the purposes of study, instruction, information, or research may be requested on loan or in photocopy from another library. The lending library has the privilege of deciding in each case whether a particular item should or should not be provided, and whether the original or a copy should be sent. These decisions may be determined by the nature of the material or its physical condition, the degree of active demand for the material requested or other reasons specifically indicated in this agreement.
2. Under the terms of this agreement it is permissible to request on interlibrary loan:

a. Materials collected in specialized subject fields and in special non-restricted collections.

b. Materials collected under special acquisition agreements.

c. Materials bought under special grant or other programs intended to strengthen the library resources of the State and to promote economical use of the total resources of the system area and the state.

d. Reference materials whenever lending might not hinder the service of the lending library.

3. Under the terms of this agreement, borrowing libraries will not ordinarily request:

   a. Books in current and/or recurring demand.

   b. Bulky or fragile materials.

   c. Rare materials.

   d. A large number of titles for one person at any one time.

   e. Duplicates of titles already owned.

   f. Materials which can be copied cheaply.

   g. Materials for class, reserve, or other group use.

   h. Inexpensive items currently purchasable, e.g. some paperbacks.

4. Each System Area Reference Center and Statewide Reference Center subscribing to this code will prepare a statement of its own interlibrary loan policies and procedures to further supplement the national code and this code, and will make this statement available to all participating libraries.

VI. Expenses

1. The borrowing library should be prepared to assume any costs charged by the lending library as agreed upon in this code. If the charges are more than nominal, and not authorized beforehand by the borrowing library, the lending library, System Area Reference Center or the Statewide Reference Center will inform the requesting library and obtain authorization to proceed with the transaction. Borrowing libraries should attempt to anticipate charges and authorize them on the initial request.
2. In the interests of efficiency the lending library, System Area Reference Center and the Statewide Reference Center agree to absorb the following costs:
   - a. Postage for outgoing materials.
   - b. Photocopying costs up to and including the first ten pages.
   - c. Insurance for outgoing materials.
   - d. Such other costs as may be agreed upon.
3. The Colorado State Library may make special contractual arrangements for financial reimbursement, under its state plan and by means of its state grant-in-aid program, in recognition of extensive resource and service contributions from the seven System Area Reference Centers, the Statewide Reference Centers and the Statewide Communications Center. These contracts shall be appended to this code.

4. The libraries so designated agree to accept referrals of reference or research questions and to provide interlibrary loans.
5. The libraries so designated also agree to use such funds to provide the proper professional staff services to carry out these assigned functions.
6. Similar agreements also may be made between System Area Reference Centers and between System Area Reference Centers and local libraries, provided that local financial reimbursement is arranged. Such agreements may be appended to this code as deemed appropriate.

VII. Conditions of Loans

1. The safety of borrowed materials is the responsibility of the borrowing library. The borrowing library will meet all costs of repair or replacement in accordance with the preferences of the lending library.
2. The borrowing library will honor any limitations on use imposed by the lending library.
3. The borrowing library is responsible for returning loans promptly and in good condition.
4. Unless specifically forbidden by the lending library, it is assumed that copying is permitted, provided that it is in accordance with copyright law and A.L.A. policy, and provided no damage to the original volume will result.

VIII. Placement of Requests

The following organizational structure will provide operation channels for the reference network service:

1. The headquarters libraries of public library systems will function as System Area Reference Centers for public libraries, school district library agencies, and junior college libraries located within system boundaries, and requests from these libraries shall be sent to the appropriate System Area Reference Center.

   a. Public libraries

   When the resources of a public library have been searched without finding material that a patron needs, reference requests may go to the Statewide Reference Network. The librarian of the public library determines if the request is a valid one, and if so relays it to the System Area Reference Center serving the area in which the public library is located. Local resources shall be checked before the request goes to the System Area Reference Center. The reference librarian of the System Area Reference Center may in turn request from the public library information, assistance and resources that may be in the public library and available for interlibrary loan within the system area.

   b. School libraries

   When the resources of a school have been checked without finding material that a patron needs, reference requests may go to the Statewide Reference Network through the school district library contact agent.

   The school district library agency is the district level contact point where the central locator file for Title II ESEA is maintained. The person in charge of the file, the district library supervisor, Title II ESEA coordinator or some one individual designated by the school district administration is the contact agent for all schools in the district.

The district contact agent receives reference requests from all schools within the district and checks the district library resources, ascertains if the request is valid, and if so relays it to the System Area Reference Center serving the area in which the school district is located. Local resources shall be checked before the request goes to the System Area Reference Center.

The reference librarian of the System Area Reference Center may in turn request from the contact agent information, assistance and resources that may be in the school district and available for interlibrary loan within the system area.

c. Community college libraries

When the resources of a community college have been checked by the librarian without finding material that a patron needs, reference requests may go to the Statewide Reference Network. The community college librarian determines if the request is a valid one, and if so relays it to the System Area Reference Center serving the area in which the college is located. Local resources shall be checked before the request goes to the System Area Reference Center. The reference librarian of the System Area Reference Center may in turn request from the community college librarian information, assistance and resources that may be in the community college library and available for interlibrary loan within the system area.

2. When the resources within systems cannot fill requests, the System Area Reference Center shall refer requests to the Bibliographical Center for Research, Rocky Mountain Region, Inc., which will serve as a State Communications Center.
3. The Colorado State Library shall function as a specialized library service to the agencies, and departments and institutions of the state government, and as a referral point for all such agencies throughout the state. It shall make available its resources to serve the requests from patrons of these agencies. When the Colorado State Library cannot fill requests, it shall refer requests to the Bibliographical Center for Research, Rocky Mountain Region, Inc., which will serve as a State Communications Center. The State Communications Center may in turn request from the Colorado State Library assistance and resources that may be available for interlibrary loan.
4. College and university libraries and special libraries forward requests directly to the Bibliographical Center for Research.
5. The Bibliographical Center for Research, upon receipt of requests, refers them to the appropriate Statewide Reference

Center. If these requests cannot be filled by the Statewide Reference Centers, they may be referred by the Bibliographical Center for Research to other locations within the state and outside the state.

6. Designated Statewide Reference Centers are: the Denver Public Library which is primarily responsible for school, public junior college service; and the University of Colorado Libraries which is primarily responsible for service to college and university and to special libraries. (New funds must be provided to implement the Reference Center at the university.)
7. Every effort will be made to locate materials through available local, state, and regional union catalogs, book catalogs, and union lists. For the purposes of this agreement, the regional union catalog maintained by the Bibliographical Center for Research shall be designated as the State Union Catalog of Colorado.
8. Requests may be made by mail, or transmitted by special or regularly scheduled messenger service, using the standard A.L.A. form or the A.L.A. photoduplication form (or a mutually acceptable form) or by teletype, using a format based on the standard form.
9. No library will lend directly to an individual on an interlibrary loan basis, except with specific permission of the borrowing library.

IX. Form of Request

1. Materials requested must be described as completely and accurately as possible following accepted bibliographic practice.
2. All items requested shall be verified in standard bibliographic tools and sources of verification cited. When the item requested cannot be verified, the statement "cannot verify" shall be indicated, and complete information as to source of reference furnished. For the purposes of this agreement, local libraries may regard the list of tools appended to this code as adequate verification. System Area Reference Centers shall use additional sources of verification and shall be responsible for providing all adequate verification possible before forwarding requests to the Statewide Communication Center.
3. If verification is disregarded, or the bibliographic data is incorrect, the Statewide Communication Center may return the request to the System Area Reference Center, for further verification.
4. The name and status (position or other identifying information) of the individual for whom the material is being requested shall appear on the request form. Local libraries shall be expected to comply with this requirement.
5. All requests and shipments shall be conspicuously labeled "Interlibrary Loan".

X. Duration of Loan

1. Unless otherwise specified by the lending library, the duration of the loan shall be calculated as the time the item is to be in the borrowing library, disregarding the time spent in transit. The period of loan shall be that ordinarily extended by the lending library.
2. Renewal requests shall be kept to a minimum. The renewal request shall be sent in time to reach the lending library on or before the due date. The lending library should respond to renewal requests promptly; if it does not, it will be assumed that renewal for the same period as the original loan is granted.
3. The loan period specified by the lending library should be appropriate to the type of material.
4. The borrowing library is responsible for returning interlibrary loans promptly and in good condition.
5. Material on loan is subject to recall at any time and the borrowing library shall comply promptly.

XI. Notification and Acknowledgement

1. The lending library shall notify the borrowing library promptly whether or not the material is being sent; if the material cannot be supplied, the lending library shall state the reason.
2. Except in the case of very valuable shipments, no acknowledgement of receipt is necessary. If there is undue delay in

receipt of shipments, the borrowing library shall notify the lending library so that a search may be initiated.

XII. Violation of the Code

1. Continued disregard of the provisions of this code shall be sufficient reason for suspension of borrowing privileges.

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3-20-70

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